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(54) Genomic DNA sequences of *Ashbya gossypii* and uses thereof

(57) The present invention relates to the terminal sequencing of random genomic fragments performed with the filamentous fungus *A. gossypii*, to the sequences obtained therewith and the use of the sequences for forensic identification, to characterize genes and gene organization of this ascomycete by inter-genomic comparison, to identify biosynthetic genes that can be used as selection markers, to isolate promoters and terminators

for application in a homologous as well as heterologous context, to find putative centromere containing clones, chromosome mapping, chromosome identifying, general information about chromosome organization and in addition to identify ORF containing SRS sequences with no homology to *S. cerevisiae* or any other organism which allows the identification of *A. gossypii* specific genes.

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Description

The present invention relates to genomic DNA sequences obtained from terminal sequencing of random genomic fragments of the filamentous fungus *Ashbya gossypii* and uses thereof

The phytopathogenic fungus *Ashbya gossypii* is a filamentously growing ascomycete that was first isolated as a plant pathogen in tropical and sub-tropical regions. It infects the seed capsule of cotton plants (Ashby S.F. and Nowell W. (1926) Ann. Botany 40, 69-84) and has also been isolated from tomatoes and citrus fruits (Phaff H.J. and Starmer W.T. (1987) In "The Yeasts", Vol. I Rose A.H., Harrison, J.S. (eds), Academic Press, London, 123 ff, Dammer K.H. and Ravelo H.G. (1990). Arch. Phytopathol. Pflanzenschutz, Berlin 26: 71-78 Dammer and Ravelo, 1990). The infection of the seed capsule is caused by transmission of *A. gossypii* mycelium pieces or spores by stinging-sucking insects and causes a disease called stigmatomycosis.

Studies characterising the karyotype of *A. gossypii* have been performed (Wright, 1990; Wendland, 1993; Gaudenz, 1994, "The small genome of the filamentous fungus *Ashbya gossypii* Assessment of the karyotype", Diploma Thesis, Department of Applied Microbiology, Biocenter, University Basel). It has been found using yeast chromosomes of precisely known length as size markers that the genome of *A. gossypii* has a total nuclear genome size of 8.85 Mb.

A. gossypii is systematically grouped to the endomycetales belonging to the family of spermothoraceae (Lodder J (1970) General classification of the yeasts. In: "The Yeasts", Lodder J. (ed.), North Holland Publishing Company, Amsterdam-London, 1ff Lodder, 1970). This classification is based on the observation that the spores that develop in hyphal compartments called sporangia look like ascospores, which are defined as endproducts of meiosis (Muller E. und Löffler W. (1971) Mykologie. Grundriß der Pilzkunde. DTV-Thieme, Stuttgart, 37 ff). However, in several respects, *A. gossypii* more closely resembles the budding yeast *Saccharomyces cerevisiae* than other filamentous fungi. For example, homologous recombination has been found to be the main mode of integration of transforming DNA (Steiner S. (1991). Diplomarbeit, Institut für Mikro- und Molekularbiologie der Justus Liebig Universität Gießen Steiner et al., 1995), which is in contrast to findings made in many other filamentous fungi (reviewed by Fincham J.R.S (1989) Transformation in fungi. Microbiol. Rev. 53 (1). 148-170).

Additionally, sequence analysis of the *A. gossypii* *TEF*, *LEU2* and *THR4* genes (Altmann-Jöhl and Philippsen, 1996; Mohr, May 1997; Steiner and Philippsen, 1994) has identified high sequence homology to their functional homologues in *S. cerevisiae*. In addition, for the latter genes, syntenic (positionally conserved) arrangement of adjacent homologous ORF's has been found. The growing number of completely sequenced reference genomes, such as for example *S. cerevisiae*, offers new prospects for rapid comparative gene and genome analysis of so far less characterized organisms, such as *A. gossypii*, in parallel or even before the application of genetic techniques.

In view of the above, the present invention provides genomic DNA sequences obtained from terminal sequencing of random genomic fragments of *Ashbya gossypii*. The present invention particularly relates to genomic *A. gossypii* DNA sequences that are obtainable from the series of clones listed in Table 1 and presented in the attached Sequence Listing. Some of these *A. gossypii* sequences are homologous to *S. cerevisiae* sequences and to sequences from other filamentous fungi, e.g. ORF's specifically required for growth in filamentous fungi. Others of these *A. gossypii* sequences, such as those set forth in Table 2, have no homology to *S. cerevisiae* sequences, including sequences which have no homology to known sequences from any other fungus. The sequences of the invention find particular use in forensic identification, chromosome mapping, chromosome identification, and tagging of genes of known and useful function. Procedures such as these can easily be carried out by those of ordinary skill in the art.

The present invention also concerns chimeric genes comprising the sequences of the invention, recombinant vectors comprising such chimeric genes, wherein the vectors are capable of being stably transformed into hosts, as well as hosts stably transformed with such vectors. Preferred hosts are fungi such as *A. gossypii* as well as bacteria.

Furthermore, the present invention relates to the identification and characterization of *A. gossypii* ORF's based on the high homology of primary structures in *A. gossypii* and *S. cerevisiae* and the sequences obtained therewith. The present invention also relates to the use of the *A. gossypii* sequences provided in the Sequence Listing to characterize genes and gene organization of this ascomycete by inter-genomic comparison, to identify biosynthetic genes that can be used as selection markers, to isolate promoters and terminators for application in a homologous as well as heterologous context, to find putative centromere containing clones, general information about genome organization and in addition to identify ORF's containing single read sequences (SRS) with no homology to *S. cerevisiae* or any other organism, which allows the identification of *A. gossypii*-specific genes.

Encompassed by the present invention is a method of sequencing the termini of randomly picked *A. gossypii* shotgun clones to obtain linked pairs of genomic sequences. Said linked pairs of genomic sequences can be used for identification of open reading frames (ORFs) showing or lacking homology to functionally characterized or uncharacterized genes from *S. cerevisiae*, other fungi or other organisms. The sequence information provided herein in the attached Sequence Listing is sufficient to generate gene deletions in *Ashbya* by using, for example, by PCR-based gene targeting methods as described herein.

One of the main prerequisites for success in such an analysis is a relatively compact, organized genome. This is

required to obtain a maximum of information from the limited length of single read sequence (SRS) analysis. *A. gossypii* represents such a compact genome. The presence within the *Ashbya* genome of short intergenic regions and rare occurrence of introns increases the probability of finding matches to open reading frames (ORF's) in the majority of SRS's.

Thus one embodiment of the present invention is a method to identify and characterize *A. gossypii* ORF's by sequence comparison of their *S. cerevisiae* homologues without the requirement of complete sequence information for the *A. gossypii* ORF's.

Further encompassed by the invention is a method for characterization of an *Ashbya* gene, the knockout of which leads to a non-growth phenotype.

In a specific embodiment of the invention a method for characterization and validation of an *Ashbya* gene is provided comprising

(a) inserting into *Ashbya* sequences of genomic pAG clones as provided herein in the attached Sequence Listing a chimeric gene construct comprising a selectable marker plus adjacent multiple cloning regions from a suitable cloning vector;

(b) selecting clones carrying *Ashbya* sequences disrupted by the selection marker gene in a suitable host system;

(c) transforming *Ashbya* with a disruption cassette according to (a);

(d) revealing the disrupted open reading frame by DNA sequence analysis around the site of integration of the selection marker module and determining the orientation of the selection marker module;

(e) determining whether deletion/insertion at the disruption site results in any phenotypic alterations.

A further embodiment of the invention relates to a method for characterization and validation of an *Ashbya* gene comprising

(a) designing cassette for gene targeting comprising terminal Short Flanking Homology regions encompassing a selectable marker module;

(b) transfecting the gene targeting cassette of (a) into *A. gossypii* and selecting transformants;

(c) verifying correct gene targeting by applying suitable testing procedures;

(e) determining whether deletion/insertion at the disruption site results in any phenotypic alterations.

Further comprised by the present invention is a method for characterization and validation of an *Ashbya* gene involving a triple selection marker module which method comprises

(a) inserting of a reporter, a selectable marker and a strong promoter, which is preferably a regulatable promoter, in front of the start codon of a coding sequence of interest (promoter exchange mutant) within the *Ashbya* genome

(b) applying potential antifungal agents for growth to the promoter exchange mutant of (a) and to a wild-type strain, respectively;

(c) identifying a growth or non-growth phenotype of the strong promoter exchange mutant.

Within this novel process any DNA encoding a selectable marker can be used that, upon transformation, is capable of conferring a resistance phenotype to *A. gossypii* or any other advantage based on which the transformant can be separated from non-transformed clones such as, for example, ScLEU2, kanMX, kanSC or GEN3.

Promoters that can be suitably used as part of the triple selection marker module are those that are capable of functioning in *Ashbya* and in heterologous systems such as, for example, *S. cerevisiae* or *K. lactis*. Preferred within this invention is a heterologous promoter from *S. cerevisiae* or *K. lactis*, which is not only to be qualified as a strong promoter also within the *Ashbya* system but is also well regulatable in *Ashbya*.

A reporter that can be suitably used within the triple selection marker module is one that is easily detectable such as, for example, the green fluorescent protein.

If the activity or expression of the gene product is inhibited by one or more agents, the inhibitory effect for growth will be overcome in the strain overexpressing the gene product. If the reporter expression, controlled by the wild-type promoter, is not changed one can conclude that the agent inactivates the gene product and not a transcription factor or signaling factor for expression of the gene product. If the reporter expression is much lower, the agent most likely affects the expression of the gene product and not the gene product itself.

The present invention further relates to a DNA molecule comprising a DNA sequence selected from the attached Sequence Listing which molecule is validated as a potential target in a pesticide screen based on the use of said molecule in a gene disruption method as described herein.

Further encompassed by the present invention is the use of sequences selected from the attached Sequence Listing to identify substances having antifungal activity; the use of sequences selected from the attached Sequence

Listing to identify substances having pesticidal activity; the use of sequences selected from the attached Sequence Listing to identify biosynthetic genes that can be used as selection markers; the use of sequences selected from the attached Sequence Listing to identify promoter and terminator regions including downstream non-translated regions and up-stream nontranslated regions, respectively; the use of sequences selected from the attached Sequence Listing to identify putative centromere-containing clones; the use of sequences selected from the attached Sequence Listing to identify ORFs containing SRS sequences with no homology to *S. cerevisiae*; the use of sequences selected from the attached Sequence Listing to identify ORF's containing SRS sequences with no homology to any other organism, which allows the identification of *A. gossypii*-pecific genes; the use of sequences selected from the attached Sequence Listing to characterize genes and gene organization of this ascomycete by inter-genomic comparison; and the use of sequences selected from the attached Sequence Listing to identify and characterize the genome organization of *Ashbya gossypii*.

In particular, the present invention encompasses the use of a DNA sequence selected from the Sequence Listing to identify *Ashbya gossypii* promoter and terminator regions including downstream non-translated regions and up-stream nontranslated regions, respectively.

The invention further relates to the use of a DNA sequence selected from the Sequence Listing wherein a putative promoter region is identified by sequence alignments and the ORF of a genetic selection marker plus start codon and terminator is placed downstream of said putative promoter region.

Further comprised is the use of an a DNA sequence selected from the Sequence Listing and variants thereof in a screening method for identifying compounds capable of inducing broad spectrum disease resistance in plants.

The suitability of the DNA sequence to be used in such a screening assay is determined in gene disruptions in the *Ashbya* genome. For that purpose a disruption cassette may be used comprising a selectable marker plus adjacent multiple cloning regions from a suitable cloning vector.

In a further embodiment of the invention a DNA sequence selected from the Sequence Listing or parts thereof is used within a gene targeting procedure involving short target sequence homologies added to both ends of a DNA molecule encoding a selectable marker.

In a further embodiment according to the invention a DNA sequence selected from the Sequence Listing may also be used for distinguishing among different species of plant pathogenic fungi and for distinguishing fungal pathogens from other pathogens such as bacteria.

It is one embodiment of the present invention to use sequences selected from the attached Sequence Listing to identify promoter and terminator regions including downstream non-translated regions and up-stream nontranslated regions, respectively. In many cases, the attache sequences allow to locate the precise boundaries between open reading frames and promoter or terminator regions either from the first single read or after additional sequencing. The promoter and terminator regions so obtained are also part of the present invention.

In particular, sequence alignments can reveal 5' ends of open reading frames plus adjacent sequences of their putative promoter regions. By placing the ORF of a genetic selection marker plus start codon and terminator downstream of this putative promoter sequence, one can identify and use novel *Ashbya gossypii* promoters.

The promoter and terminator regions so obtained are also part of the present invention.

The DNA sequences provided in this application are especially suitable to be used in gene disruptions in the *Ashbya* genome. This can be performed, for example, using classical procedures involving gene disruption cassettes.

Said gene disruption cassettes essentially consists of a selectable marker plus adjacent multiple cloning regions from a suitable cloning vector. This transformation selection module upon expression of the selection marker gene preferably leads to resistance in yeast and filamentous fungi and also in bacteria such as, for example, *E. coli*. This module is inserted into *Ashbya* sequences of genomic pAG clones as provided herein in the attached Sequence Listing. To this purpose the selectable marker is released from the cloning vector by cleavage with a suitable restriction enzyme such as, for example, BamHI, Sall or XhoI. It is ligated into cloned *Ashbya* DNA cleaved with a corresponding restriction enzyme that is, for example either BglII, XhoI (partial) or Sall (partial), respectively. Clones carrying *Ashbya* sequences disrupted by the selection marker gene are selected in a suitable host system such as, for example, *E. coli*. DNA sequence analysis around the site of integration of the selection marker module (i1 and i2 sequences in the attached *Ashbya* data base) reveal the disrupted open reading frame and determine the orientation of the selection marker module.

A selection marker that is especially suited to be used within the scope of the present invention is kanMX0 expressing G418 resistance in yeast and filamentous fungi and kanamycin resistance in *E. coli* (International Patent Application No PCT/EP 91/01116; Steiner et al, 1995).

Especially preferred within the scope of the present invention is a new PCR-based *Ashbya* gene targeting procedure provided herein. Gene targeting in *Ashbya* relies on homologous recombination in this fungus (Steiner et. al., (1995) Genetics (in press 1995)). Short target sequence homologies added to both ends of a DNA molecule encoding a selectable marker are sufficient to mediate sequence specific gene targeting in *Ashbya*. The length of the target sequence homologies is preferably in the range of between about 20 to 80 nt, more preferably between 35 and 60 nt,

and most preferably is about 45 nt. Within this novel process any DNA encoding a selectable marker can be used that, upon transformation, is capable of conferring a resistance phenotype to *A. gossypii* or any other advantage based on which the transformant can be separated from non-transformed clones.

The fragment designed for gene targeting thus carries terminal Short Flanking Homology regions encompassing the selectable marker module. These fragments are transfected into *A. gossypii* by a suitable method such as, for example, electroporation and transformants are selected. Verification of correct gene targeting is achieved by suitable testing procedures such as, for example, PCR testing the presence of the new junctions between target DNA and integrated marker using specific verification primers. Verification of the gene targeting can also be performed by DNA-hybridization experiments.

In using verification primers it proved advantageous to use specific primer pair combinations. One pair of verification primers, for example, may be derived from the open reading frame of the selectable marker gene. Whereas a second pair of primer sequences can be derived from the single read sequence and correspond to regions upstream and downstream, respectively, of the homology regions used for the targeting process. Using this PCR-based targeting approach sequences can be manipulated that are approx. 150 nt in length. A criterium matched by all single read sequences of the attached *Ashbya* database. This is of major advantage considering classical methods of gene disruption that are laborious and require cloning steps to incorporate a selectable marker within rather large flanks of surrounding target sequence homology.

After clonal purification (spore isolation) it can be easily determined whether deletion/insertion at the targeted locus results in any phenotypic alterations such as, for example, a reduction or abolition of fungal growth, decrease or loss of viability, etc. Once such a phenotypic alteration can be established for one of the *Ashbya* disruption or knockout mutants it is further examined whether said mutant qualifies as a target to be used in a pesticide screen, preferably a fungicide screen.

Owing to the provision within the scope of this invention of a novel and powerful gene disruption process, there is no longer a need to know the exact biological function of the protein product encoded by a gene comprising or, in the alternative, being flanked by one of the *A. gossypii* DNA sequences provided herein.

Those sequences that have no homology neither to *S. cerevisiae* nor to any other organism and are thus *A. gossypii* specific are especially useful, as they are promising candidates to be used in a pesticide screen for identifying substances which have pesticidal and, preferably, fungicidal activity, but are non-toxic to other organisms especially mammals. Though nothing is known about the exact biological function of the genes comprising said DNA sequences or being flanked by said DNA sequences, they are nevertheless especially valuable owing to their being unique to the fungal pathogen. Thus, any pesticidally active substance being identified in a pesticide screen involving one or more of those sequences have a high potential of exhibiting a biological activity that only affects *A. gossypii* and possibly other pathogenic fungi having (yet unidentified) homologous sequences, but do not interfere with any vital functions in other organisms such as, for example, mammals.

It is thus a further embodiment of the present invention to identify genes within the *A. gossypii* genome which are potential targets for the action of pesticidally active compounds, but especially fungicidally active compounds, by using those *Ashbya* sequences identified in the Sequence Listing corresponding to ORF's with 100 and more codons showing less than 20% homology to a yeast gene classified as 3 or as "none".

ABBREVIATIONS

LIPS Linked Pairs of Sequences
MCS Multi Cloning Site
ORF Open Reading Frame
SRS Single Read Sequence
RP Reversed Primer
UP Universal Primer

DESCRIPTION OF TABLE 1 AND THE SEQUENCE LISTING

The sequences in the Sequence Listing correspond to the PAG names in Table 1. Thus, Table 1 describes each sequence in the Sequence Listing in six columns: "PAG name", "Yeast", "Gene Name", "Brief Description", "Homology Class", and "Additional Comments", the details of which are as follows:

PAG Name: Number of *Ashbya gossypii* plasmid clone (e.g. PAG1001) followed by RP (sequence obtained using the reverse primer) or by UP (sequence obtained using the universal primer) or 11 or 12 (internal sequences obtained after insertion of kanMX0 in the *Ashbya* DNA at a BglII, XhoI or BamHI site and sequencing in both directions from these sites using sequencing primers binding to the 5' and 3' region of kanMX0). CRP and CUP mark sequences from rare chimeric genomic clones, the ends of which map to different genomic regions. For a few clones, only RP or UP

sequences are listed. 5% of the plasmid clones carry ribosomal DNA sequences, as concluded from high sequence homologies of their RP and UP sequences to ribosomal DNA of *S. cerevisiae*. These overlapping clones representing tandem copies of the 8.2 Kb *Ashbya* ribosomal DNA repeat are not listed in the *Ashbya* genome data base. The PAG name is set out above each individual sequence in the Sequence Listing.

Yeast name: Systematic name of *S. cerevisiae* gene with highest homology to the *Ashbya* sequence, as determined by the search algorithm. For some *Ashbya* sequences, two systematic names are listed because they carry information from two *Ashbya* ORF's with homology to *S. cerevisiae* genes. Sequences of high (significant) homology are distinguished from those with low (insignificant) homology by the classification in column 5 (Homology Class). If no systematic gene name is listed, the *Ashbya* sequence shows either no homology to *S. cerevisiae* genomic DNA or it is mitochondrial DNA (around 80% AT base pairs and homology to genes coded by the mitochondrial genome).

Gene name: *S. cerevisiae* gene name used in the literature

Brief Description: Brief description of the *S. cerevisiae* gene showing highest homology to the *Ashbya* sequence.

Homology Class (HC): Significant homologies to *S. cerevisiae* genes are classified as 1. Intermediate homologies (about one quarter to one third identity on the amino acid level) are classified as 2. ORFs with 100 and more codons showing less than 20% homology to a yeast gene are classified as 3. *Ashbya* sequences lacking ORF's of 100 and more codons and showing less than 20% sequence homology to *S. cerevisiae* are classified as 4.

Additional Comments. Useful comments concerning (a) presence of promoter or terminator sequences as judged by the presence of 5' ends (N-terminus) and/or 3' ends (C-terminus) of ORF's and adjacent DNA, (b) identification of novel *Ashbya* ORF's (minimum size in nucleotides (nt) as only ORF in frames +1 to +3 or -1 to -3 and lacking significant homology to yeast and fungi, (c) synteny, (d) reason for changes of ORF classification, (e) matches to tRNA genes, (f) presence of intron, judged from interruption of regions of high level of protein homology and confirmed, in addition, by applying the *S. cerevisiae* intron-recognition rules, (g) high CAI (codon adaptation index) marking a well expressed gene and with that a strong promoter. Further abbreviations are explained in the MIPS yeast data base.

EXAMPLES

Example 1: Construction of a Genomic Library

A.) Preparation of Partially Digested DNA

Genomic DNA of *A. gossypii* (strain ATCC 10895) was partially digested with *Sau3A* and separated on a low melting agarose gel. Two regions were cut out off the gel: A first the gel piece containing DNA fragments in the range of 3.5-6 kb in length and the second gel piece from containing DNA fragments in the range of 5-8 kb in length

B.) Ligation and Cloning (standard procedures and media as described in Sambrook et al Cold Spring Harbor Press, 1989)

Sau3A fragments of different sizes, derived from the partial digestion of the genomic DNA, were cloned into the yeast shuttle vector pRS416 (Sikorski and Hieter, 1989, Genetics 122: 19-27). For this purpose pRS416 was cut with *Bam*HI. The 5'-phosphate group of the linearized vector (4.8 kb) was removed with Calf Intestinal Phosphatase to minimize the recircularization of the vector during ligation. DNA of the two size fractions, one with fragments in the range of 3.5-6 kb and the other with fragments in the range of 5-8 kb were cloned separately into the vector. The ligation samples were separately transformed into the *E. coli* strain XL1-blue yielding together approximately 21,500 colonies on 55 plates. 80 % of the colonies (17,000) were white indicating insertion of a *A. gossypii* DNA. The 21,500 colonies derived from the two size fractions were combined by washing each plate with 2 ml full medium (2*YT). Approximately 120 ml cell suspension were obtained. 100 ml of the cell suspension were used to inoculate once a 1 litre culture for the isolation of plasmid DNA. The remaining 20 ml cell suspension were mixed with 5 ml glycerol and stored divided into two aliquots at -70 °C. The ratio of white to blue colonies stayed stable after growth in selective full medium ON. The isolated plasmid DNA was purified over a caesium chloride density gradient and separated on agarose gel. The total yield of plasmid DNA isolated from the 1 litre culture was approximately 5 mg.

All plasmids of the genomic library had a common structure based on plasmid pRS416. The average insert length was approximately 4 kb. The genomic library with 17,000 recombinant clones carrying an insert therefore covers 8 times the 9.7 Mb *A. gossypii* genome (Gaudenz, 1994).

Example 2: Sequence determination

A.) Sequencing the partial Sau3A fragments at both ends

Approximately 350 to 450 ng of plasmid DNA was taken for cycle sequencing (T3 and KS primer or similarly binding primers) with the Peikin Elmer AmpliTaq FS PRISM™ Ready Reaction Dye Terminator Cycle Sequencing kit using the protocol of the manufacturer (addition of 1% DMSO to the sequencing reaction, 95 °C denaturing temperature) and the 373A automated sequencing system (Perkin Elmer) for electrophoresis and fragment detection. SRS's were named with the plasmid name and the suffix UP or RP was added to mark the side of the insert from which the sequence was derived regardless, of which primer present at this side of the multiple cloning site was actually used.

B.) Sequence processing

Concerning the pAG1001 to pAG1000 and 1201 to 1700 series of clones, the vector part of the sequences was removed, obvious base-calling errors were edited and, depending on the quality of the sequence, an individual end point was determined. SRS of the pAG1001 to pAG1100 and 1201 to 1700 series were not further edited and were taken as provided. All sequences were transferred on a VAX system and put into GCG format. Query sequences were translated in all six reading frames and run in a BLAST search (Altschul *et al.*, 1990) against MIPS data base at <http://www.mips.biochem.mpg.de/mips/yeast/>

Alignment of sequences from mitochondrial or rDNA clones was performed with the SeqMan module of the Lasergene software package (DNASTAR, Ltd., London, UK) on a Macintosh Power PC.

Example 3: Classification of the BLAST search results

In the evaluation of the BLAST results, four different categories of homology class (HC) were used. HC 1 and 2 represent SRS's showing a significant hit to an *S. cerevisiae* ORF. The border between category 1 and 2 was made at approximately 40 % identity in the aligned protein sequences. SRS's showing no convincing homology (around 20 % identity and lower) but with an possible open reading frame (with or without ATG) of at least 300 nt length were assigned to HC 3. All SRS's with no significant homology and no possible open reading frame of at least 300 nt were put into HC 4. However, the described values for classification were not applied as strict rules. Factors such as length of homologous block, in cases of several blocks the overall homology, relation of scoring hit to possible open reading frames, position of homologous block within the *S. cerevisiae* protein sequence (for example very N- or C-terminus), a biased sequence, etc. were taken into account for classification.

Almost 30% of the clones listed in the attached Sequence Listing show synteny with *S. cerevisiae*. Thus, *Ashbya* genes of interest for antifungal screening assays (e.g. homologues of essential fungal or yeast genes) can be found due to positional conservations (synteny) when RP and/or UP sequences match adjacent *S. cerevisiae* homologues. Applying the rules of ancient synteny, the frequency of such predictions increases by a factor of 2 or even more.

Over 5% of RP and UP sequences identified open reading frames of 100 and more codons with no apparent homology to sequences in data bases. In Table 1, they are marked as class 3 or 4. These sequences are therefore candidates for novel lead target genes. Fungal pathogens (e.g. *Candida albicans* or phytopathogenic fungi) carrying homologues of these genes can be treated by compounds which were developed based on assays using the *Ashbya* lead target.

Example 4: Use of the *Ashbya gossypii* sequences for isolation of *Ashbya gossypii* promoters

Sequence alignments can reveal 5' ends of open reading frames plus adjacent sequences of their promoter regions. By placing the ORF of a genetic selection marker plus start codon and terminator downstream of this promoter sequence, one can identify and use novel *Ashbya gossypii* promoters. For example, an ORF of 67 amino acids was identified on the SRS of pAG1245rp. This ORF shows 98 % homology to the *S. cerevisiae* Ribosomal Protein S28.e. 12 in a BLAST search (Altschul *et al.* (1990) J. Mol. Biol. 215: 403-410). The ORF (AgRPS33B) for the putative *A. gossypii* Ribosomal Protein is located from 195 to 395 on the SRS with 700bp, leaving 300bp for the promoter. Based on these findings plasmid pAG1245 may be used for isolation of a novel promoter using the AgLEU2 marker in PCR-targeted gene exchange in *S. cerevisiae*.

A.) PCR synthesis of a DNA fragment carrying the AgLEU2 marker

Two primers, RP5 and RP3, are selected for the amplification of the AgLEU2 gene. Both primers are 60 mers showing beside 20 bp homology to AgLEU2 in addition to 40 bp homology to pAG1245.

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Primer RP5: 5' TTT TAC TAG ATA TTT TAT ATC CAA GAA GCA ATA GAT CAA AAT GGC TGC GGT AAA GAG AAT 3'. The 40 bp at the 5' end of RP5 are homologous to 40 nucleotides in front of the ATG start codon of AgRPS33B. The 20 bp at the 3' end of RP5 are homologous to the first 20 nucleotides of the AgLEU2 ORF, including the ATG start codon.

5 Primer RP3: 5' CTG GAG CTC CAC CGC GGT GGC GGC CGC TCT AGA ACT AGT GCG CCA ACG TTG CGA GAT ATA 3'. The 40 bp at the 5' end of RP3 are homologous to 40 nucleotides in the pBlISK+ multiple cloning site (Alting-Mess M. A. and Short J M. (1989) Nuc acids Res. 17(22). 9494) of pAG 1245 covering the SacI, SacII, NotI, EagI, XbaI and SpeI restriction sites. The 20 bp at the 3' end of RP3 are homologous to 20 nucleotides in the AgLEU2 terminator region (1261-1281).

10 Sequence carrying the AgLEU2 coding region and the AgLEU2 terminator sequence (the ATG start codon of AgLEU2 is written in bold letters and the stop codon (1117-1119) is underlined):

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(1) ATGGCT GCGGTAAGA GAATGTGGT GCTTCGGGGC
 GACCACATCG GCCCGAGGT CGTGGAGGAG GCGGTGAAGG TGCTTGGCGC CGTGGAGCAG AGCCTGTGG ACCTGCACAT
 TGACTTCCAG TACCACCTGG TCGGCGGGC GGCCATCGAC GCCACGGGT CCGCGCTGCC GGACGAGCG CTGGGCGCGG
 CGAAGGAGGC GGACGCGGTA CTGCTGGGG CAGTTGGCGG ACCGAAGTGG CAGGGCGCGG CCGTCAGGCC GGAGCAGGGC
 CTGCTGAAC TGAGACAGGA GTTGGGCGTG TACGGCAACC TCGCTCCCTG CAACTTGGC GCGGACTCGC TGCTCGAGCT
 GTGCGCGCTG CGCCCCGAGA TTGCCCCGGA TACCGATATT ATGGTGGTGC GGGAGCTGCT GGGCGGAGC TACTTCGGCG
 AGCGCCACGA GGACGAGGGC GACGAGTCG CGTGGGACAC CGACAAGTAC ACCGTGAAGG AGGTGCAGCG CATCGCGCGC
 ATGGCGGGGT TCCTGGCTCT GCAGCAGGAC CCGCGCTAC CTGTGTGGTC GCTGGACAAG GCGAACGTCC TGGCCAGCTC
 CCGCCTGTGG CGCAAGACCG TGGAGGAAC CTTCAGAGT GAGTCCCAA ACGTGCAATT GCAACACCAG TTGATAGATT
 CAGCTGCAAT GATTTGGTC AAGAACCCTG CCGGTCCTG GTACGAGCA ACATGTTCCG GGACATTTATC
 TCTGACGAAG CGTCGGTGAT CCCAGGTCC CTAGGTTGC TGCCATCGGC CTCGCTCGCG TCTTTGCCGG ATAGCAAGAG
 CGCCTTTGGC CTCTACGAGC CCTGCCACGG CTCTGGGCC GATCTGCCG CCGGGAAGGC GAACCCGATC GGATGCATCC
 TCTCTGCTGC CATGATGCTG AAGTTGTCTG TGAACATGGT TGCTGCCGGC GAGGCGGTG AGCAGGCAGT GCAGGAGGTG
 TTGGACTCGG GAGTCAGAAC GGGCGACCTG CTCGGCTCGA GCTCCACTTC GGAGGTTGGC GACGCCATTG CGCTTGCAGT
 TAAGGAAGCC TTGCGCAGGC AATCCGCAGC TGGTCTGAGC TAGCCTCGAG GACCCCTTTC TTTAGACTAT TCTACTCTTA
 TGCACGTAAA AAATTCTAGG AAATATGTAT TAAC TAGGAG TAAATAAAC GGCTAGTGGC ATTCATATAG CCGTCTGTTT
 ACATCTACAT CACACATTTC GAGTGTATAT CTCGCAACGT TGGCG (1281)

The PCR reaction is performed in a Thermocycler from amers Biotechnology. As a template, the isolated 3.1 kb BamHI/Sall fragment from plasmid pAG150 (Mohr Ch. (1997) Ph.D. Thesis, Institute of Applied Microbiology, University

of Basal) carrying the AgLEU2 gene is used. 100 ng template are added for a 50 µl reaction volume supplemented with 0.2 mM of dATP, dCTP, dGTP and dTTP. 5 µl of 10*Thermo Pol Buffer (Biolabs). The concentration of primer RP5 and primer RP3 in the reaction is 1 µM. After the hot start, 1 µl enzyme mixture (Taq Polymerase (Pharmacia) and Vent Polymerase (Biolabs) 5:1) is added. PCR is executed under the following conditions: hot start 2 min at 94 °C, 30 cycles of 30 sec at 94 °C, 30 sec at 55 °C and 2 min at 72 °C and finally 4 min at 72 °C.

Analysis of the PCR reaction on a 1% agarose gel shows a concentration of 100 ng/µl for the 1.36 kb PCR product, which can be used to transform *S. cerevisiae*.

Example 4.2 Transformation of *S. cerevisiae*

For the direct exchange of the ORF of AgRPS33B on plasmid pAG1245 in *S. cerevisiae* with the AgLEU2 marker via homologous recombination a cotransformation is carried out. As a recipient strain, YP98 with the phenotype *g*, *ura3-52*, *lys2-801^{amber}*, *ade2-101^{ochre}*, *trp1-Δ1*, *leu2-Δ1* (Sikorski R.S. and Hieter P. (1989) Genetics 122: 19-27) is used. Transformation is performed according to Gietz et al. (1992) Nuc. Acid Res. 20 (6): 1425.

2 µg plasmid DNA of pAG1245 and 2 µg PCR product are cotransformed into strain YP98. Plasmid pAG1245 carries the CEN6/ARSH4 cassette and the URA3 gene providing replication and selection in strain YP98. Recombination between the 40 bp at the ends of the PCR product, which are homologous to parts of the pAG1245rp SRS, leads to excision of the AgRPS33B open reading frame and integration of the AgLEU2 marker gene. Transformants are double selected for URA⁺ and LEU⁺ on SD-minimal medium supplemented with lysine, adenine, tryptophan and lacking uracil and leucine (Sikorski R.S. and Hieter P. (1989) Genetics 122: 19-27). As a positive control, 2 µg plasmid DNA of pRS415 and pRS416 (Sikorski R.S. and Hieter P. (1989) Genetics 122: 19-27) were cotransformed. Plasmid pRS416 carries the CEN6/ARSH4 cassette and the URA3 gene, and pRS415 carries the CEN6/ARSH4 cassette and the LEU2 gene for replication and selection. Transformants are also selected on SD-minimal medium supplemented with lysine, adenine, tryptophan and lacking uracil and leucine. As a negative control, 2 µg PCR product are transformed to exclude the possibility of genomic integration of the AgLEU2 marker gene. Selection for the negative control is carried out on SD-minimal medium plates supplemented with lysine, adenine, tryptophan, uracil and lacking leucine. After 2-3 days of incubation, the first transformants appear, and after 5 days the transformation efficiency is calculated. The negative control, only transformed PCR product, has no transformants. The positive control, pRS415 and pRS416, has a transformation efficiency of 300 transformants/µg DNA. The cotransformation of pAG1245 and the PCR product shows a transformation efficiency of 10 transformants/µg DNA. For verification of the integration of the AgLEU2 marker gene into pAG1245, the new plasmid, which is named pAG1245-1, is isolated from the transformants and further investigated.

C.) Verification of the integration of the AgLEU2 marker into pAG1245

Genomic DNA from several independent *S. cerevisiae* transformants harboring the newly generated plasmid pAG1245 is isolated according to Philippsen P. et al., (1991) Methods in Enzymology 194: 169-182, Guide to Yeast Genetics and Molecular Biology, Academic Press.

The genomic DNA is transformed into the *E. coli* strain XL1-blue (Bullock W.O. et al., (1987) Bio Techniques 5 (4): 376-378) using the protocol described by Dower J.W., (1988) Nuc. Acids Res. 16: 6127-6145). Plasmid DNA of pAG1245-1 is isolated and integration of the AgLEU2 marker gene is verified via analytical PCR. A primer pair with one primer located in the multiple cloning site and one primer in the promoter region of AgRPS33B indicates excision of the ORF of AgRPS33B and integration of the AgLEU2 marker gene. For this purpose, two primers RP1 and RP2 are selected. RP1 (5'CAT GAT TAC GCC AAG CGC GC 3') is homologous to 20 nucleotides in the pBlISk+ multiple cloning site (Alling-Mess M. A. and Short J.M. (1989) Nuc. acids Res. 17(22): 9494) in pAG1245 adjacent to the Reverse Primer binding site. RP2 (5'CCA AGC ACA TTT CAC CTG CG 3') is homologous to 20 nucleotides to the pAG1245 SRS from 521-540. With this primer combination, the expected PCR product is 0.6 kb for pAG1245 and 1.5 kb for pAG1245-1. PCR reactions were performed using plasmid DNA from pAG1245 and from pAG1245-1, originated from two independent *S. cerevisiae* transformants, as templates. 100 ng template are added for a 50 µl reaction volume supplemented with 0.2 mM of dATP, dCTP, dGTP and dTTP. 5 µl of 10*Thermo Pol Buffer (Biolabs). The concentrations of primer RP1 and primer RP2 in the reaction is 1 µM. After the hot start, 1 µl enzyme mixture (Taq Polymerase (Pharmacia) and Vent Polymerase (Biolabs) 5:1) is added. PCR is executed under the following conditions: hot start 2 min at 94 °C, 30 cycles of 30 sec at 94 °C, 30 sec at 55 °C and 2 min at 72 °C and finally 4 min at 72 °C.

Analysis of the PCR reaction on a 1% agarose gel shows a band at 0.6 kb for pAG1245 and a band at 1.5 kb for pAG1245-1. This result demonstrates the right integration of the AgLEU2 marker gene in pAG1245.

Example 5: Isolation of new fungal DNA elements based on synteny of linked sequence pairs

With the initial bi-terminal SRS's of the DNA insert of plasmid PAG1489 (PAG1489RP and PAG1489UP), synteny

is discovered to the centromeric region of *S. cerevisiae* CEN2. This synteny reveals homology to the yeast genes YBL003c and YBR001c. The complete double stranded insert sequence shows synteny to the yeast genes YBL003c (97% identity), YBL002w (94% identity), YBL001c (69% identity), and YBR001c (73% identity) as determined by BLAST searches to the Yeast Genome Database (Altschul, Stephen F., Gish, Warren, Miller, Webb, Myers, Eugene W., and David J. Lipman (1990). Basic local alignment search tool. *J. Mol. Biol.* 215:403-410). In yeast, the centromere of chromosome II is placed between YBL001 c and YBR001c. Homologous sequences to the yeast centromere II are found in the *A. gossypii*. DNA sequence of PAG1489 between positions 2900 to 3200. This homology comprises the essential Centromere DNA Elements CDEI, CDEII, and CDEIII. Making use of the synteny of RP and UP sequences of a single pAG-plasmid to a reference genome, the detection of potential antifungal drug targets can be inferred in the same way as the centromere on PAG1489. In addition, using *Ashbya gossypii* as a reference genome, potential antifungal drug targets of other pathogenic fungi can be isolated.

Sequence of pAG1489 insert DNA :

GATCGTAACATTGCCCAATAGCTTGTTTAGCTCGTCATCGTTTCTGATGGCTAGCTGTAGATGTCTT
GGGATGATTCTGGTCTTCTTGTTGTCTCTGGCGGCGTTACCGGCCAACTCTAGGATTTTCGGCGGCCA
AGTATTCTAGCACAGCGGTTAGGTACACAGGCGCGCCCGACCCGATTCTCTGTGCGTAGTTGCCCTT
TCTGAGCAATCTGTGGACTCTACCGACAGGGAAAGTCAAACCGGCCTTAGCCGATCTCGACTGCGAA
GCCTTGGCGGCAGAACCAGCTTTACCTCCTTTACCAGACATTATTTGTGTTGTGTGTGTGTGTGTGT
GTTTAGTGTGAACTGCGTGTGCTATGAGAAAACACTACGCTGAAACTGCTAAATAATCCAGACAGGT
CCCCCACC GCAAAGGATCCACGCTATACTTCTCTCTACATATTTATACTTGTCTTTTGCCTTCTA

ATCCTCGATCGTACGCGTCTGACGCTTCAACAGACGCTTCACCTAGACGCTCGACCTGTGCGGCCTG
 GTTTTTTCGCATGACATGTCCGTGCTGGTTTTTTCGCGCTGAAAAGGAAAGCGCGTGGCTCCCAGCA
 5 CCAGAGCCGTAAGTCTCTTTCGCGTGTCTTATGTGCACGCGAAATTTTCATACTGTAGAGTGT
 GCCATCAGCTTCACAGAGTACAAACGGTAGGCGAGTGGATACGCGTCTTGTAGCCGGACGTGAATGG
 CAGAACTTTTTGGCAGTCGCGTAATCTTAGATTGAAAGTATTTAAGTGGAAACGTATAAAACAAAAGT
 TCGGGCTGAAGAGGACCTCTTTTGGCGSTCTGCTACTTCCAGTTATCTGTTGGATACTAAGCATAT
 10 CGAACTCTAATTGCAATTCTAAAGATGGCACCAAAGGCTGAGAAGAAACCTGCTTCCAAGGCCCCAG
 CGGCAAAGAAGACCACTGCTTCTACCGACGCTTCTAAGAAGCGGACGAAGACTAGAAAAGGAGACCTA
 CTCCTCTTACATTTACAAGGTTCTTAAGCAGACTCACCCAGATACTGGTATCTCGCAGAAGTCTATG
 TCCATTTTGAACCTGTTTGTGAACGATATCTTTGAGAGAATCGCGTCTGAGGCATCCAAGCTTGCGG
 15 CCTACAACAAGAAGTCTACGATCTCTGCTAGAGAAATCCAGACTGCTGTCAGATTGATCTTGCCCCG
 TGAGCTAGCCAAGCACGCCGTGTCTGAGGGTACCAGAGCTGTTACCAAGTACTCGTCTTCTACCCAA
 GCCTGAATGGAACCTATTCTTAGAATGAAAGAACTTCCTTCAAGAAGGTTCTCGTCAGCTAGTGCTT
 20 GTGGGACCCGCCCTCTTATTCAGAGCAGCTGCGGCAGAGCGGTATGTGGTACGTTCCGTTTCATCAT
 TTTGTATTATTAGTACATGTAGAAATAGGGTTTTCTGGTTTTATAATTCCGGTATAAATTCACCGTA
 ATGTATATTAGATAAGTTTTAACTAGTAATCGGAGAGCTTCTTTTCAACCACGTCTACCTTGTCTT
 GCGCAGTCTGCTGTTTGTCTGTTCTAGTTCCGAGCCTCATTTCCGGTGTGGATTCTAACGTATCCCAA
 25 TTCGTGGCTGTATTTCGTGCAACTGGCCGATGAGGCTCATGACCTCGTCCCAAGGGCCCTCAATCGTC
 GTTCCAAAGCTGTGCATAGTGCTTTTCAAGTGACTCTCCCTAATTCGTTTCTCAATCTTGGTGACAT
 AGTCTGAGACACTTGGTGAGCTAGTACCTAGCTATGATTCAAAAGTTTAGTATATTGTTTTATATAT
 GCAGCTGGAGATGTGAACATACCGGCACCATGCAAATGTCCACTAATGTGTGCAGCTTCGACATTTT
 30 GATTTCTACCTTCAGAGTATTGGAATATGTTCTTGTATGTAACGTCTACTAATTTTCTGGTPTTATAT
 CGCTGATCTTAAGGGAGATAATTTTCGTTCACCCATCACACAGAAGTTTAAAGTACAAAACCTGTCCC
 CAGATATAGCAAGTCATCAATTCAGGTATAATTGGTGTGCATGCTAATTTGAAGGGCTGTTATATAG
 35 TTGAAGTTGTTCTTTTGGCATTGAGCCAAATTTGGATTCTATTTCAGTAGTATTGAACATCAAGTCTC
 CAAAGCTGAAGTCTGAAGCAAAACATCTCAATAGCTATAGAACTCTAGCAAACAACAGACCAGAGCT
 TATATCATGACACATTATAAGCTCAGCTATTACTCTGAGTGATAGAGTGACCCCTCAATTAGTTGGTT
 CATTTTATATATAAAAATATAAACTATAGCTATTTCAAATGACTACTAATAACGAGAGAAGAA
 40 AACAAATTAAACACGATGGTCTACAGATAGCTTGAAAGAGACACTAAGAGAAATTTAGGAAACAGT
 TCAGAAAATAGCCATTTCAGCTCTACAGCTCTCTTTATTATCAAGAGTACAGTTTCTTTCACTAATAT
 CGCTTAATTAATTATATTTCTTGCCATTAAATGCGACGGTGACGGGATAACAATTTTGGCAATTCCT
 45 TCATATTTTGATTTAAAAAAAACAATTTACCAGAATTAGACGAAATAGTCGCTTACTACAAACAG
 GTTCAGCCACTGGATAAATCTCATAGTTTAAAAATATTGAGTTACAGAAATTTGGCTTACAGAAAGCAC
 TAGCGATTAGGCCATTTGCCATTGATTTAAACATGAACCTAACGAACCTCCATGAATTACAATAACCA
 CAAATTTAACCGGACAATTAATTTTATGTAGCAGGCTCTGCCATGGGAATAGCTTTACGTGAACAGG
 50 ATATTTAACGTATATCTTGTATGATAAAGACTTTGATAGGTGCTTATACTTGCAAGTTCATATTT
 TACAGTTAAATATCTAAATTTAATATATTACGCAGTTTCACGCAATGTAGCACGTGACATAAATATGA
 AATTTACTATGTGCTTGCTTTATTTAAATAAGTTTATAAAGTTAGTAAAAATATCAGAGTATATAT
 ATTTAATTAAATAATATCCTAAATATACTAATAAATTTATCAATTAAGCTTTATACACTTTATAA
 55 ATAGTTATAATTATAGATGTGTATACGATTTCCGAAACATAAAAATATTTCACTGCTTTTCGTGAAAA

ATAATTTTTTTTATTATAAAACAATCCCTAATATAGTATTACCTCCAATTATGAGTCTATCGTAATAT
 ATGAAGTACTACCAAAATTTACCACTGATTTTTCAAAAAAACAACCATTTTTCAAAAATATTTTA
 5 TTAAGTGAATTTTTTATAATTAAATTTTTTATATCTATATAGAATATCTATTATACGCAAGAAAAAC
 CAAAAAGTACCCTATAAGTAGGTACCGCTTGTCCACATTATAATAAAAAAGTGAAGTACTCATCAA
 TACTTTTATTTAGGATACCTGCAGTCTAATATCCCTTCACGTAAGTTACTTAGTGACAATATTCAC
 10 AGTGAGTTAGTAACCCGGTTCAGATCAAGGCATACCGAGCTTCTCTTCTGGCTTCATATGCTTAAA
 GAAAAATATCAGGGACGGTGCAGTTAGCTAAAGCTCTCTTAGCATAAGTATTCATAAATTTCAAACCT
 AAGATATAACTGGAATTGACCCAGCCAAATCCTTCAGTAGCAACACCTTTAAAGTCTGCACCTTGGT
 TACCATATTCGGCATCAACTCTATGAGGATCTGTGCCTCTGGTAACGTCGTATTTCTCTACTACGAT
 15 ACCATTGTAGTCGACAAATGCCTTGGTCATTAATAAATAACCACCTATAGGCCAACCTTCTTGCAACT
 CCTGTAAATCCGTAATTATCTAACCCTGTCAGCAAGCATTTGATGAGGGGGCCCAACCATAAGGGT
 AATCCCATTTGCCTGCTTGGTCTATTTCATTGTTATCTCACCCTGAGACTCCTCAGTACAGGCAACCAG
 GCCTCCTAGCATTTCAAGCCTTGGCAATGCCTTCTCGACCATAGCGTTGGCTTGTTCCTGGGTTGCC
 20 AAGCCTGCCCACATGGCCCCAAATGTTGTTGCAGAATCGTAAGATGTTCTCTTTCCAATATGGACAT
 TGTAAGTCATAGAAAAAGCCTGTTTCTCGTCCACAAATATTTCTGTGATTCTTTGCTTACGAATGTC
 TGCAAGTGCCTCCCAATGAGAAGAAGTGGTGGTTTCACCAGCATAATCAGTAATACTATCATCGAAG
 25 TACTTGGAAACCACATATGCAATATCTTTTTTCGTACTTGTATAGTAACGAATTCAAATCAATCGTCG
 CTAAGTAAGCACAGACGTTCTCTAGACGGTAAGAGGTGTCTATGTCCACTCTCACGTACAGCAGCATC
 ATGCAAAAAGAACTCATCTAGTTCGGGCTCGTGTACTTCGCCGGCATCGTACATGCACCTGAACTCC
 GGAATCGTTACATTGTGCTTTTCCGCAAATTTCCGGCAAATTCGCGTCAAAGTGGTCAGGCTCGGTTT
 30 CTGGTGGGAAACCGATACCATCTGGATGATAACATGAAAGACCCGTGGTTTTGTCTACCGCGGTTT
 TGCCATCCATACACTCTTGTATTCTTAAATGGCTGCGATGAATGCTCTTTTCAAGAAATCCACAGCG
 GTAGGATTTTGGTCAACACCGAACTTTTCAAGACCTTCAAAGCCATGTCCGTTAGGAACGGGGGTT
 GTGACCGACAGAGGTAGTAGCTCTATTGGCGTTCAATATTTTACCGTAATGCTCTATCTCAAAGAT
 35 GAAATGCTCAACCATCCACGTCATGTCCACTTTGTTACAGTCTAGAAGACCCAAAGCCATTAGG
 TATGAGTCCCAGCCGTAAAGTTCATTAATAACGACCGCCCGGAACAACGTAGGGAAAACCAACCAATG
 TACTCTCACCGGTAATTGGGTCCCTGTGACTCTCCATCGCCAAAGCAAGCAACCCCGGGCTTTCTGTT
 40 CAATGATTGCACGTGCTCCGGCGTGATC

Example 6: Identification of antifungal drug targets represented in the attached *Ashbya gossypii* database

A.) Principle of gene disruption using Short Flanking Homology (SFH)-PCR mediated transformation of *Ashbya gossypii*

Gene disruptions in the *Ashbya* genome represented by sequences provided in the Sequence Listing are performed using a new PCR-based *Ashbya* gene targeting procedure. Gene targeting in *Ashbya* relies on homologous recombination in this fungus (Steiner et. al., 1995). It has been found that short (approximately 45 bp) target sequence homologies added by PCR to both ends of a selectable marker (e.g. GEN3) are sufficient to mediate sequence-specific gene targeting in *Ashbya*. The PCR fragment for gene targeting thus carries terminal Short Flanking Homology regions encompassing the selectable marker module. These PCR fragments are transfected into *A. gossypii* (e.g. by electroporation) and transformants are selected for G418 resistance. Verification of correct gene targeting is achieved by PCR-testing the presence of the new junctions between target DNA and integrated marker using verification primer pairs G1-G2 and G3-G4 as described by Wach et al. (1997) P. Yeast 13: 1065-1075. Also, verification of the gene targeting can be performed by DNA-hybridization experiments. The verification primers (G2: 5' GTTAGTCTGAC-CATCTCATCTG 3' and G3: 5' TCGCAGACCGATACCGAGGATC 3') are derived from the open reading frame of the selectable marker gene GEN3. G1 and G4 primer sequences are derived from the single read sequence and correspond to regions upstream and downstream, respectively, of the homology regions used for PCR-based targeting. Using this

PCR-based targeting approach, sequences can be manipulated that are approximately 150 nt in length, a criterium matched by all single read sequences of the attached *Ashbya* database. This is of major advantage considering classical methods of gene disruption that are laborious and require cloning steps to incorporate a selectable marker within rather large flanks of surrounding target sequence homology.

After clonal purification (spore isolation) it is determined whether deletion/insertion at the targeted locus results in any phenotypic alterations (e.g. decrease or loss of viability) identifying a potential target for antifungal drugs.

B.) Protocol for Short Flanking Homology (SFH)-PCR mediated transformation of *Ashbya gossypii*

1.) Selection of S1 and S2 primers is done in order to link app. 45 nt specific of the target locus sequence to 20 nt homologous to pGEN3 in order to allow amplification of the selection marker *GEN3*. The standard sequence on the 5' side of *GEN3* corresponds to 5' GCTAGGGGATAACAGGGTAAT 3', which includes the recognition site of the rare cutting endonuclease I-SCE1 to the PCR fragment. This restriction site is not found in the nuclear genome of *A. gossypii* and can be used to physically map the position of the *A. gossypii* insert DNA to a chromosomal location. The sequence on the 3' side of *GEN3* corresponds to 5' AGGCATGCAAGCTTAGATCT 3'. Put together, the S1 and S2 primers comprise a total of app 65 nt. Selection of verification primers G1 and G4 which are neither part nor overlap with S1 and S2 primer sequences is dependent on the target locus sequence.

2.) Generation of SFH-PCR fragment is achieved by using the S1 and S2 primers to amplify *GEN3* to an amount of approximately 10mg from linearized pGEN3 cleaved by the restriction endonucleases *EcoRI* and *BamHI* (Biolabs). To increase the fidelity of the PCR-product a mixture of Taq DNA Polymerase (Pharmacia) and Vent DNA Polymerase (Biolabs) is used in a ratio of 10: 1-2 units.

Standard PCR conditions are:

| | |
|------------------------------|---------------------|
| Step 1: Initial denaturation | at 96°C for 2min. |
| Step2: Denaturation | at 96°C for 30s. |
| Step3: Primer annealing | at 50°C for 30s. |
| Step4: Elongation period | at 72°C for 2.5min. |

Steps 2-4 are repeated for 25-35 times.

| | |
|------------------------------------|-------------------|
| Step5: Terminal elongation period: | at 72°C for 5min. |
| Step6: Storage at 4°C (optional). | |

3.) Transfection of the SFH-PCR product into *A. gossypii* is done by electroporation (Steiner et al., 1995 with modifications):

- 1.) Inoculate 100-200ml YPD or AFM (YPD: 2% casein peptone, 2% glucose, 1% yeast extract; AFM: 1% casein peptone, 2% glucose, 1% yeast extract, 0.1% myo-inositol) with a spore suspension of app. 10^7 spores.
- 2.) Incubate at 30°C for a max. of 18h under rotation of 200rpm.
- 3.) Collect the mycelium by filtration and wash once with sterile H₂O.
- 4.) Resuspend 1g of wet weight mycelium in 40ml of 50mM potassium phosphate buffer, pH 7.5 containing 25mM DTT and incubate at 30°C for 30min with gentle shaking.
- 5.) Collect the mycelium by filtration and wash once with 50ml cold STM buffer (STM: 275mM sucrose, 10 mM Tris-HCl, pH 7.5, 2mM MgCl₂).
- 6.) Resuspend to a densely packed mixture of mycelium in STM buffer.
- 7.) Mix app. 150ml of mycelium with max. 50 ml of SFH-PCR product in an Eppendorf tube and transfer the mixture into an electroporation cuvette (BioRad 4mm).
- 8.) Apply an electric field pulse of 1.5kV, 100%, 25 mF which will result in a pulse length of app 2.3ms. Add 1 ml of YPD or AFM and spread equal amounts onto 3 pre-dried AFM plates.
- 9.) Incubate at 30°C for a min. of 4h.
- 10.) Overlay with 8ml 0.5% agarose top layer containing Geneticin/G418 at a final concentration of 200 mg/ml.
- 11.) Incubate at 30°C for a max. of 4 days

C.) Examples of gene disruptions revealing potential antifungal drug targets using Short Flanking Homology (SFH)-PCR.

1.) Disruption of PAG1025RP

The amino-terminal part of the *RHO 3* gene is located on PAG1025RP. The location of the homology region to the target locus of the four primers (S1, S2, G1, and G4) necessary to construct and verify the SFH-PCR transformants are indicated in section E.) below. Using the S1 and S2 primers (including the 20 nt homologous to pGEN3 at the 3' end of the homology region to the target locus as indicated in A) together with pGEN3, the plasmid carrying the selectable marker gene *GEN3*, (linearized by cutting with *EcoRI* and *BamHI* restriction nucleases [Biolabs]), a PCR fragment is generated that carries terminal Short Flanking Homology regions encompassing the selectable marker module. Primary transformants, which are heterokaryotic with respect to transformed and untransformed nuclei, are clonally purified by spore isolation using a micromanipulator. Germination of spores deleted for *RHO 3* on selective medium is only obtained by adding osmotic stabilizers such as 1 M sorbitol. Verification of the set deletion is performed by PCR using the verification primers G1 and G4 that are unique to the target locus and are not used in the initial transformation event, as well as the primers G2 and G3 that are specific to the selectable marker. PCR products indicative of a homologous gene targeting event can be obtained by using the verification primers in the combination G1-G4 (which amplifies the entire locus in which integration of *GEN3* is targeted), G1-G2 (which amplifies the 5' novel joint that is created by insertion of *GEN3*) and G3-G4 (which amplifies the 3' novel joint that is created by insertion of *GEN3*).

2.) Disruption of PAG1634RP

The amino-terminal part of the *BAL 1* gene is located on PAG1634RP. The location of the homology region to the target locus of the four primers (S1, S2, G1, and G4) necessary to construct and verify the SFH-PCR transformants are indicated in section E.) below. Using the S1 and S2 primers (including the 20 nt homologous to pGEN3 at the 3' end of the homology region to the target locus as indicated in A) together with pGEN3, the plasmid carrying the selectable marker gene *GEN3*, (linearized by cutting with *EcoRI* and *BamHI* restriction nucleases [Biolabs]), a PCR fragment is generated that carries terminal Short Flanking Homology regions encompassing the selectable marker module. Primary transformants, which are heterokaryotic with respect to transformed and untransformed nuclei, are clonally purified by spore isolation using a micromanipulator. Germination of spores deleted for *BAL1* on selective medium is only obtained by adding osmotic stabilizers such as 1 M sorbitol. Verification of the gene targeting event is done as described in C.1)

3.) Disruption of PAG1486RP

The aminoterminal part of the *BUB1* open reading frame is located on PAG1486RP. The location of the homology region to the target locus of the four primers (S1, S2, G1, and G4) necessary to construct and verify the SFH-PCR transformants are indicated in section E.) below. Using the S1 and S2 primers (including the 20 nt homologous to pGEN3 at the 3' end of the homology region to the target locus as indicated in A) together with pGEN3, the plasmid carrying the selectable marker gene *GEN3*, (linearized by cutting with *EcoRI* and *BamHI* restriction nucleases [Biolabs]), a PCR fragment is generated that carries terminal Short Flanking Homology regions encompassing the selectable marker module. Primary transformants, which are heterokaryotic with respect to transformed and untransformed nuclei, are clonally purified by spore isolation using a micromanipulator. Germination of spores, deleted for *BUB 1* cannot be obtained indicating that this gene is essential in *A. gossypii*. Verification of the gene targeting event is done as described in C.1)

SFH-PCR mediated marker integration into the *A. gossypii* DNA can be applied to all RP and/or UP sequences of the attached data base. Further applications of SFH-PCR mediated gene targeting in *A. gossypii* are:

- 1.) Generation of antisense transcripts.
- 2.) Overproduction of mRNA and presumably overexpression of a protein.
- 3.) Addition of reporter genes to a target sequence (e.g. GFP, lacZ).
- 4.) Introduction of longer deletions using RP and UP sequences.

D.) Examples of gene disruptions revealing potential antifungal drug targets by classical procedures

1.) Construction of disruption cassettes

As a selectable marker, kanMX0 is used. This is a transformation selection module expressing G418 resistance in yeast and filamentous fungi and kanamycin resistance in *E. coli* (International Patent Application No PCT/EP 91/01116). This module is inserted into *Ashbya* sequences of genomic pAG clones. The module is a chimeric kanamycin gene plus adjacent multiple cloning regions from the cloning vector pAG-231 (Steiner, Wendland, Wright, and Philippsen, Genetics 1995: 140, 973-987). To this purpose the selectable marker is released from the cloning vector pAG-231 (by cleavage with either BamHI, Sall or XhoI. It is ligated into cloned *Ashbya* DNA cleaved with either BglII, XhoI (partial) or Sall (partial), respectively. Clones carrying *Ashbya* sequences disrupted by kanMX0 are selected in *E. coli* by kanamycin resistance. DNA sequence analysis around the site of integration of the kanMX0 module (i1 and i2 sequences in the attached *Ashbya* data base) reveal the disrupted open reading frame and determine the orientation of the kanMX0 module.

2.) Disruption of PAG1010i1/i2, PAG1017i1/i2, PAG1021i1/i2, and PAG1044i1/i2

Disruption cassettes are released from the plasmids leaving several hundred base pairs of *Ashbya* DNA flanking kanMX0 (e.g. by cleavage with NotI and KpnI in the multicloning region). Transformation of *Ashbya* with the disruption cassettes induces homologous recombination into the target locus (Steiner et al., 1995). Primary transformants are selected on G418 containing plates and analyzed by DNA hybridization experiments or by PCR, followed by clonal purification (spore isolation). Chromosomal mapping of the target loci is achieved by I-SceI endonuclease mapping of chromosomal DNA separated by pulsed-field gel electrophoresis.

Primary transformants are heterokaryotic, carrying nuclei with a wild type allele and nuclei with a disrupted allele. Spores with single haploid nuclei develop in the older mycelium and allow clonal purification of transformants (e.g. by single spore isolation with a micromanipulator, Steiner et al., 1995). Spore isolation is followed by a growth assay. The disruption of *Ashbya* ORF's identified for example in sequences PAG1010i1/i2, PAG1017i1/i2, PAG1021i1/i2, and PAG1044i1/i2 do not grow on reveals no growth of spores on G418 medium thereby classifying the products of these ORF's as essential for growth (novel antifungal targets).

One advantage of using *Ashbya*, a fungus with a small genome and apparently very few gene duplications, for novel drug target identification is demonstrated by the fact that the ORF represented by PAG1017i1/i2 is essential in *Ashbya* but the highly homologous ORF Yer082c of *S. cerevisiae* is not (Smith, Chou, Lashkari, Botstein, and Brown Science 1996: 274, 2069-2074).

Clonally purified disruptions of several other ORF's do grow on G418 medium, sometimes identifying mutants that display slow growth phenotypes (e.g. disruption of AgDHC1).

E.) Construction of pGEN3

The GEN3 selection module is designed specifically to allow homologous recombination in *Ashbya gossypii* using short flanks of DNA sequence homology to the desired target locus. GEN3 consists of the open reading frame of the kan^R-gene which is under the transcriptional control of the *S. cerevisiae* TEF2 promoter and terminator. GEN3, which confers resistance to the antibiotic drug geneticin, bears no sequence homology to the *A. gossypii* genome.

To construct pGEN3, the ORF of the kan-gene is amplified from pFA-kanMX4 (Wach, A., Brachat, A., Poehlmann, R., and Philippsen, P. (1994). New heterologous modules for classical or PCR-based gene disruptions in *Saccharomyces cerevisiae*. Yeast 10:1793-1808) using primers PTEF2-kan and TTEF2-kan (table 1) that contain an additional 40 bp of short flanks of homology to the *S. cerevisiae* TEF2 gene. The diploid yeast strain FY1679 is transformed with this SFH-PCR product (Wach et al., 1994). Genomic DNA of transformants resistant to G418 is checked for integration of the PCR product at the TEF2 locus by analytical PCR using primers TEF2-150RPG and TEF2-BglII. Because of the diploid background a wild-type band 2.26 kb and a replacement band of 1.7 kb is generated. This 1.7 kb fragment contains the kan-ORF flanked by 609 bp of the TEF2-promoter region and 274 bp including the TEF2-terminator. This gene is termed GEN3. The fragment is extracted out of an agarose gel and ligated as an BglII-fragment into the BglII site of pAF100 (Thierry A., Fairhead, C., and Dujon, B. (1990). The complete sequence of the 8.2 kb segment left of MAT on chromosome III reveals five ORF's, including a gene for a yeast ribokinase. Yeast 6:521-534) yielding pGEN3. The usefulness of GEN3 as a marker gene in *A. gossypii* is corroborated by recloning of the gene in an ARS containing vector (Sikorski, R.S. and Hieter, P. (1989). A system of shuttle vectors and yeast host strains designed for efficient manipulation of DNA in *Saccharomyces cerevisiae*. Genetics 122 19-27.) that allows free replication upon transformation in *A. gossypii*.

Oligonucleotide primers ¹⁾

PTEF2-kan GTTTTAGAATATACGGTCAACGAACATAATTAATACTAAACatcgcgaaagcaaaaagctca
 5 TTEF2-kan GGTATATAAAATATTATATGGAAGCAATAATTATTACTCttagaaaaactcatcaacca
 TEF2-150RPG gcgagatctGGTGTATTTACCAATAAT
 TEF2-BglII gcgagatctGATGAGGCCGCTTTTGTG

10 ¹⁾ Upper case letters correspond to *S. cerevisiae* DNA used as homology regions. Lower
 case letters correspond to homologies to pGEN3, pFA-kanMX4 (double underlined), or
 represent additional nucleotides containing the restriction site BglII (bold) used in the cloning
 15 of pGEN3.

Example 7: Forensic identification using PCR-based diagnostic techniques

20 The DNA sequences of the present invention are also useful for distinguishing among different species of plant
 pathogenic fungi and for distinguishing fungal pathogens from other pathogens such as bacteria. Particularly, the DNA
 sequences of the invention can be used as primers in PCR-based analysis for fungal identification, as well as primers
 derived from these DNA sequences. DNA sequences that vary among different pathogens can be used to identify and
 distinguish among those specific specific pathogens. For example, the presence of *Gaumannomyces graminis* in in-
 25 fected wheat has been detected using PCR of sequences specific to the pathogen mitochondrial genome (Schlesser
et al., 1991; *Applied and Environ. Microbiol.* 57: 553-556), and random amplified polymorphic DNA (*i.e.* RAPD) markers
 have been able to distinguish numerous races of *Gremmeniella abietina*, the causal agent of scleroderris canker in
 conifers. U.S. Patent No. 5,585,238 describes primers derived from the ITS sequences of the ribosomal RNA gene
 region of strains of *Septoria*, *Pseudocercospora*, and *Mycosphaerella* and their use in the identification of these
 fungal isolates using PCR-based techniques.

30 Methods for the use of DNA sequences in PCR analysis are well known in the art. See, for example, see U.S.
 Patent Nos. 4,683,195 and 4,683,202, as well as Schlesser *et al.* (1991) *Applied and Environ. Microbiol.* 57:553-556.
 See also, Nazar *et al.* (1991; *Physiol. and Molec. Plant Pathol.* 39: 1-11), which used PCR amplification to exploit
 differences in the ITS regions of *Verticillium albo-atrum* and *Verticillium dahliae* and therefore distinguish between the
 two species; and Johanson and Jeger (1993; *Mycol. Res.* 97: 670-674), who used similar techniques to distinguish
 35 the banana pathogens *Mycosphaerella fijiensis* and *Mycosphaerella musicola*. Similarly, the sequences of the present
 invention set forth in the Sequence Listing can be adapted for use in such PCR analysis.

Table 1: Description of *Ashbya gossypii* genomic fragments in the Sequence Listing

| <u>PAG name</u> | <u>Yeast Name</u> | <u>Gene Name</u> | <u>Brief Description</u> | <u>HC</u> | <u>Additional Comments</u> |
|-----------------|-------------------|------------------|---|-----------|-------------------------------------|
| PAG1001RP | YNR030w | | weak similarity to SMP3 protein | 1 | |
| PAG1001UP | YCR069w | SCC3 | peptidyl-prolyl cis-trans isomerase precursor | 1 | |
| PAG1002I1 | YIL014w | | similarity to Mnn1p (elpe-1,3-mannosyltransferase) | 2 | homology due to PAG1002I2-hit |
| PAG1002I2 | YIL014w | | similarity to Mnn1p (elpe-1,3-mannosyltransferase) | 2 | |
| PAG1002RP | YIL105c | | similarity to hypothetical protein YNL047c | 3 | open frame > 450 nt in -2 |
| PAG1002UP | YBL009w | | homology to DNA damage responsive ALK1 protein | 4 | |
| PAG1003RP | YCR053w | THR4 | threonine synthase (o-p-homoserine p-tyase) | 1 | Terminator, Syntenie, see PAG1003UP |
| PAG1003UP | YCR057c | PWP2 | periodic tryptophan protein | 1 | Syntenie, see PAG1003RP |
| PAG1004RP | YLR102c | | hypothetical protein | 2 | Syntenie, see PAG1004UP |
| PAG1004UP | YLR100w | | hypothetical protein | 1 | Syntenie, see PAG1004RP |
| PAG1005RP | YBR216c | | homology to hypothetical protein (chromosome VII) | 3 | open frame > 350 nt in -1 |
| PAG1005UP | YNL068c | FKH2 | homolog of Drosophila forkhead protein | 3 | open frame 300 nt in -3 |
| PAG1006RP | YDR432w | NPL3 | nucleolar protein | 3 | open frame > 450 nt in -3 |
| PAG1006UP | YOR290c | SNF2 | component of SWI/SNF global transcription activator complex | 3 | open frame > 350 nt in -1 |
| PAG1007RP | YER091c | MET6 | 5-methyltetrahydropteroyl triglutamate-homocysteine methyltransferase | 1 | Syntenie, see PAG1007UP |

| | | | | |
|-----------|---------|---|---|---|
| PAG1007UP | YER093c | weak similarity to <i>Staphylococcus epidermidis</i> PepB protein | 1 | Syntenie, see PAG1007RP |
| PAG1008i1 | YHR196w | hypothetical protein | 1 | does not fit in Syntenie of PAG1008RP, UP and I2 |
| PAG1008I2 | YJR133w | similarity to hypothetical D9509.18p | 1 | Promotor + Terminator (the latter according to PAG1008i1), 279 nt. Syntenie, see PAG1008RP and UP |
| PAG1008RP | YJR132w | putative Upf1p-interacting protein | 2 | Terminator, Syntenie, see PAG1008I2 and UP |
| PAG1008UP | YJR134c | unclear similarity to paramyosin, myosin | 1 | Terminator, Syntenie, see PAG1008I2 and RP |
| PAG1009RP | YNL218w | homology to <i>C. burnetii</i> <i>trxB</i> , <i>spolIIE</i> and <i>serS</i> genes | 1 | Syntenie, see PAG1109UP |
| PAG1009UP | YNL219c | probably membrane protein | 2 | Syntenie, see PAG1109RP |
| PAG1010i1 | YLR337w | proline-rich protein verprolin | 3 | open frame 350 nt in +3 and -2 |
| PAG1010I2 | YLR332w | serine-rich protein, multicopy suppressor of temperature sensitivity of <i>htr1</i> null mutant. Open frame whole length in +3 and -3 | | |
| PAG1010RP | YOR240w | weak similarity to unknown <i>S. pombe</i> protein | 1 | |
| PAG1010UP | YGR115c | questionable ORF | 1 | |
| PAG1011i1 | YLR374c | questionable ORF | 4 | |

| | | | | | |
|-----------|---------|-------|--|---|--|
| PAG1011I2 | YKR054c | DYN1 | dynein heavy chain, cytosolic | 1 | additional Hit see PAG1011RP end PAG1219RP |
| PAG1011RP | YKR054c | DYN1 | dynein heavy chain, cytosolic | 1 | additional Hit see PAG1011I2 an PAG1219RP |
| PAG1011UP | YJL133w | MRS3 | splicing protein end member of the mitochondrial carrier family | 1 | Terminator |
| PAG1012RP | YER074w | RP50A | ribosomal protein S24.e | 1 | Terminator, cannot be checked for Intron, not on sequence of PAG1012RP |
| PAG1012UP | YIL068c | SEC6 | component of a multiprotein complex involved in fusion of post-golgi vesicles to plesme membrane | 1 | |
| PAG1013I1 | YLR344w | RPL33 | ribosomal protein | 1 | Promotor, Syntenie, see PAG1013UP, RP and I2 2nd Hit, Intron In A.g. at the same position like In S.c. (CAI S.c. 0.63) |
| PAG1013I2 | YLR344w | RPL33 | ribosomal protein | 1 | Terminator, Syntenie, PAG1013UP, RP and I1 |
| PAG1013RP | YLR345w | | similarity to 6-phosphofructo-2-kinase (EC 2.7.1.105) | 1 | Syntenie, see PAG1013UP, I1 and I2 2nd Hit |
| PAG1013UP | YLR343w | | homology to Cendide elbicans pH responsive | 1 | Syntenie, see PAG1013RP, |

| | | | | protein | | I1 and I2 2nd Hit |
|-----------|---------|-------|---|--|---|--------------------------------------|
| PAG1014RP | YDR376W | ARH1 | 1 | similarity to human adrenodoxin reductase | 1 | Syntenie, see PAG1014UP |
| PAG1014UP | YDR375C | BCS1 | 1 | MT protein of the CDC48/PAS1/SEC18 (AAA) family of ATPases | 1 | Terminator, Syntenie, see PAG1014RP |
| PAG1016RP | YIR002C | | 1 | similarity to ATP-dependent RNA helicases | 1 | |
| PAG1018UP | YJR078W | | 1 | indolelimine 2,3-dioxygenase homolog | 1 | |
| PAG1017I1 | YER082C | | 1 | hypothetical protein | 1 | |
| PAG1017I2 | YER082C | | 1 | hypothetical protein | 1 | |
| PAG1017RP | YIL075C | SEN3 | 1 | tRNA processing | 1 | |
| PAG1017UP | YKL216W | URA1 | 2 | dihydroorotate dehydrogenase (EC 1.3.99.11) | 2 | |
| PAG1018RP | YKL018W | | 1 | hypothetical protein | 1 | |
| PAG1018UP | YIR019C | STA1 | 3 | extracellular glucosylase | 3 | open frame whole length in +1 and -3 |
| PAG1019RP | YKR084C | HBS1 | 2 | elongation factor 1 alpha-like protein | 2 | |
| PAG1019UP | YKR092C | SRP40 | 3 | weak suppressor of a mutant of the subunit AC40 of DNA dependent RNA POL I and III | 3 | open frame whole length in +1 |
| PAG1020RP | YOL130W | | 1 | strong homology to YFL050c (ALR2, aluminium resistance protein) | 1 | |
| PAG1020UP | YNL310C | | 1 | hypothetical protein | 1 | |
| PAG1021I1 | YIL019W | | 1 | hypothetical protein | 1 | Terminator, Syntenie |
| PAG1021I2 | YIL019W | | 1 | hypothetical protein | 1 | syntenie |
| PAG1021RP | YIL022W | TIM44 | 1 | MT inner membrane protein required in transport across the inner membrane | 1 | syntenie |
| PAG1021UP | YIL019W | | 1 | hypothetical protein | 1 | syntenie |

| | | | | | |
|-----------|---------|--------|--|---|---|
| PAG1022RP | | | | 3 | open frame whole length in -1 |
| PAG1022UP | YDR331w | | weak similarity to S.japonicum hemoglobinese | 3 | open frame > 350 in +1 |
| PAG1023I1 | YCR092c | MSH3 | DNA-repair protein | 2 | |
| PAG1023I2 | YCR092c | MSH3 | DNA-repair protein | 1 | |
| PAG1023RP | YCR092c | MSH3 | DNA-repair protein | 1 | |
| PAG1023UP | YNR047w | | similarity to microtubule-associated serine/threonine protein kinases | 1 | |
| PAG1024RP | YBR119w | MUD1 | U1 snRNP-specific A protein (snRNA- associated protein) | 2 | most likely intron, no ATG in correct frame found slightly different position compared to S.c. |
| PAG1024UP | YER105c | NUP157 | nuclear pore protein (nucleoporin) | 3 | open frame whole length in +3 and -2 |
| PAG1025RP | YIL118w | RHO3 | similarity to RAS proteins; belongs to RHO sub- family | 1 | |
| PAG1025UP | YNL061w | NOP2 | homolog to human proliferation-associated nucleolar antigen, p120 | 1 | |
| PAG1026RP | YIL098c | | hypothetical protein | 1 | Terminator |
| PAG1026UP | YNL039w | TFC5 | transcription factor TFIIIB, B" component of RNA polymerase III | 2 | |
| PAG1027RP | YOL122c | SMF1 | suppressor of mitochondrial matrix protease (MAS1) mutant | 1 | |
| PAG1027UP | YOR359w | | hypothetical protein | 4 | |

| | | | | |
|-----------|---------|--|---|---|
| PAG1028RP | YNL308c | similarity to unknown protein on S.pombe CHR I cosmid c22G7 | 1 | Syntenie, see PAG1028UP |
| PAG1028UP | YNL309w | Sin3p-binding protein (transcription regulatory protein) | 2 | Syntenie, see PAG1028RP, (classification in Hom_Class 2 according to Syntenie) |
| PAG1029RP | YOR205c | hypothetical protein | 2 | |
| PAG1029UP | YGL141w | similarity with hypothetical protein 1 - human (A38919) | 2 | |
| PAG1030RP | YHR205w | cAMP-dependent protein kinase homolog | 1 | Syntenie, see PAG1030UP |
| PAG1030UP | YHR204w | similarity to alpha-mannosidases | 1 | Syntenie, see PAG1030RP |
| PAG1031RP | YKL012w | similarity to C.elegans hypothetical protein ZK1098.1 and to Myo2p | 1 | Promotor, Syntenie, see PAG1031UP |
| PAG1031UP | YKL011c | cruciform-cutting endonuclease 1 | 2 | Syntenie, see PAG1031RP, (classification in Hom_Class 2 according to Syntenie) |
| PAG1032RP | YKL209c | ABC transporter responsible for export of A factor mating pheromone | 4 | |
| PAG1032UP | YDL133w | putative membrane protein | 1 | Terminator |
| PAG1033RP | YBR274w | probable serine/threonine-specific protein kinase (EC 2.7.1.-) | 1 | |
| PAG1033UP | YDL037c | putative glucan 1,4-alpha-glucosidase (EC 3.2.1.3) | 3 | open frame whole length in -2 |

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|-----------|---------|---|---|--|
| PAG1034RP | YGL114W | hypothetical protein | 1 | |
| PAG1034UP | YOR246c | similarity to reductases | 4 | |
| PAG1035I1 | YLR337W | proline-rich protein verprolin | 3 | open frame 300 nt in -3 |
| PAG1035I2 | YNL281W | hypothetical protein | 3 | open frame > 350 nt in -1 |
| PAG1035RP | YJR090c | required for glucose repression and for glucose end cation transport | 3 | open frames > 350 nt in -1 |
| PAG1035UP | YBL079W | nuclear pore (nucleoporin) | 1 | see PAG1035UP for additional Hit to YBL079W |
| PAG1036RP | YLR266c | similarity to transcription factors | 3 | open frames 350 nt in -3, 300 nt in +2 |
| PAG1036UP | YDR370c | hypothetical protein | 2 | |
| PAG1037RP | YLR430W | positive effector of tRNA-splicing endonuclease | 1 | |
| PAG1038RP | YNL068c | homolog of Drosophila forkhead protein | 3 | open frame whole length in -3 |
| PAG1038UP | YLR389c | protease involved in e-factor processing | 1 | |
| PAG1039RP | YDR443c | component of RNA-POL holoenzyme and komberg's mediator (SRB) subcomplex | 1 | nearly whole gene on clone |
| PAG1039UP | YDR443c | component of ma polymerase holoenzyme and komberg's mediator (SRB) subcomplex | 1 | Promotor, nearly whole gene on clone |
| PAG1040RP | YAL040c | G1/S-specific cyclin | 4 | tRNA (Val1), pos. 134 - 207, perfect match to S.c. tRNA(Val1A), 1 mismatch to tRNA(Val1B), no intron |
| PAG1040UP | YPR087W | hypothetical protein | 2 | |

| | | | | | |
|----|-----------|---------|---|---|--|
| 55 | PAG1041RP | YJL054w | hypothetical protein | 2 | |
| 50 | PAG1041UP | YLR337w | proline-rich protein verprolin | 4 | |
| 45 | PAG1042RP | YGL035c | transcriptional repressor involved in glucose-repression | 3 | open frame > 300 nt in -2 |
| | PAG1042UP | YKR075c | weak similarity to negative regulator Sm1p/Hex2p | 3 | open frame 300 nt in +1 |
| | PAG1043RP | YDR456w | similarity to NA ⁺ -H ⁺ antiporters | 2 | |
| | PAG1043UP | YML029w | putative membrane protein | 2 | |
| | PAG1044I1 | YDL076c | | | |
| | PAG1044I2 | YDL076c | | | |
| | PAG1044RP | YDL077c | hypothetical protein | 2 | syntenie |
| | PAG1044UP | YDL075w | ribosomal protein L31.e.c12 | 1 | Promotor; Intron, in A.g. at same position compared to S.c. (CAI S.c. 0.60);syntenie |
| | PAG1045RP | YBL096c | hypothetical protein | 4 | |
| | PAG1045UP | YDL195w | component of the COPII coat of ER-goigi vesicles | 4 | |
| | PAG1046RP | YHR132c | carboxypeptidase homolog | 1 | |
| | PAG1046UP | YBR149w | | 3 | open frame 350 nt in +1 |
| | PAG1047RP | YLR377c | fructose-1,6-bisphosphatase, gluconeogenic enzyme | 1 | Syntenie, see PAG1047UP |
| | PAG1047UP | YLR378c | member of the protein permease family of the major | | |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|--|-------|
| PAG1048RP | YBL023c | MCM2 | member of the Mcm2p,Mcm3p,Cdc46p family | 1 |
| PAG1048UP | YER139c | | similarity to YD9609.20 (similarity to amino acid permeases) | 1 |
| PAG1049RP | YLR050c | | similarity to human MAC30 C-terminus | 2 |
| PAG1049UP | YFL018c | LPD1 | dihydrolipoamide dehydrogenase precursor | 1 |
| PAG1050RP | YGL139w | | similarity with hypothetical protein (chromosome XVI) YPL221w | 1 |
| PAG1050UP | YIL090w | | hypothetical protein | 1 |
| PAG1052I1 | YPL221w | | homology to hypothetical protein (CHR VII) and probable membrane protein YAL053w | 2 |
| PAG1052I2 | YPL221w | | homology to hypothetical protein (CHR VII) and probable membrane protein YAL053w | 1 |
| PAG1052RP | YGL139w | | similarity with hypothetical protein (chromosome XVII) YPL221w | 1 |
| PAG1052UP | YGL137w | SEC27 | coatomer complex beta chain (beta'-cap) of secretory pathway vesicles | 1 |

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|-----------|---------|-------|---|---|---|--|
| PAG1058UP | YDR152w | | hypothetical protein | 1 | 1 | Syntenie, see PAG105811 |
| PAG1059RP | YLR289w | GUF1 | similarity to E. coli elongation factor-type GTP-binding protein lepa | 1 | 1 | Syntenie, see PAG1059UP 1st end 2nd Hit |
| PAG1059UP | YLR291c | GCD7 | translation initiation factor eif2b, 43 KD (beta) subunit | 1 | 1 | Terminator + Promotor (300 nt, for Terminator see PAG1059UP 2nd Hit), Syntenie |
| | YLR292c | SEC72 | Involved in recognition of signal peptides | 1 | 1 | Terminator + Promotor (300 nt, for Terminator see PAG1059UP 1st Hit), Syntenie |
| PAG1060RP | YER157w | | unknown function | 1 | 1 | syntenie same es PAG1637 |
| PAG1060UP | YER155c | BEM2 | GTPase-activating protein | 1 | 1 | same as PAG1637 |
| PAG1061RP | YGR276c | | weak similarity with GOR protein - Pan troglodytes | 1 | 1 | same es PAG1112 |
| PAG1062RP | YMR297w | PRC1 | carboxypeptidase y (CPY) (YSCY), serine-type protease | 1 | 1 | |
| PAG1062UP | | | ORF not regarded, homolog to Gly-X carboxypeptidase, pseudogene in S288C, three ORF's are separated by two in-frame STOP-codons | 3 | 3 | open frame 300 nt in -1, many stops in other frames |
| PAG1063RP | YPL004c | | homology to hypothetical protein (chromosome VII) | 1 | 1 | |

| | | | | | | |
|-----------|---------|-------|---|---|--|------|
| PAG1076RP | YJL024c | YKS7 | sigma-2 adaptin homolog | 1 | intron possible, 5' splice site not found | Mito |
| PAG1076UP | | | | | | Mito |
| PAG1077RP | | | | | | Mito |
| PAG1077UP | | | | | | Mito |
| PAG1078I1 | YJL024c | YKS7 | sigma-2 adaptin homolog | 1 | intron possible, 5' splice site not found | Mito |
| PAG1078I2 | YJL024c | YKS7 | sigma-2 adaptin homolog | 1 | Terminator, for Intron see PAG1089I1 | |
| PAG1078RP | YCR081w | SRB8 | component of RNA polymerase holoenzyme and SRB subcomplex | 4 | | |
| PAG1078UP | YGR175c | ERG1 | squalene monooxygenase | 1 | Terminator | |
| PAG1079RP | YNL133c | | hypothetical protein | 2 | tRNA (Phe), pos. 446 - 538, Syntetile of YNL133c and tRNA (Phe), 18 nt Intron in S.c., anticodon (gene)=GAA, same as PAG1200 | |
| PAG1079UP | YHR069c | | homology to unknown S.pombe and human proteins | 1 | same as PAG1200 | |
| PAG1080UP | YLL009c | COX17 | interacts genetically with SCO1 and SCO2 in cytochrome oxidase assembly | 1 | Promotor, whole gene on clone, (CAI S.c. 0.09)) | |
| PAG1081RP | YOR378w | | homology to aminotriazole resistance protein | 3 | open frame whole length in +3 | |
| PAG1081UP | YCR075c | ERS1 | Intracellular protein transport | 2 | | |

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|-----------|---------|-------|--|---|---|
| PAG1082RP | YGR055w | MUP1 | high affinity methionine permease | 1 | |
| PAG1082UP | YLR357w | | similarity to hypothetical protein (chromosome VII) | 2 | |
| PAG1083RP | YNL283c | | similarity to mammalian mucin and yeast chitinase | 3 | open frame whole length in -2, many stops in other frames |
| PAG1083UP | YDR158w | HOM2 | aspartate-semialdehyde dehydrogenase (EC 1.2.1.11) | 1 | Promotor (CAI S.c. 0.43) |
| PAG1201RP | YDL140c | RPO21 | RNA polymerase II, largest subunit (B220) | 1 | Promotor (CAI S.c. 0.21) |
| PAG1201UP | YLR218c | | hypothetical protein | 2 | |
| PAG1202RP | YPR003c | | hypothetical protein | 2 | |
| PAG1202UP | YPL108w | | hypothetical protein | 1 | |
| PAG1203RP | YMR076c | | similarity to E. nidulans bimD protein, includes C-term + terminator | 1 | two genes covered by RP-SRS; syntenie |
| PAG1203UP | YMR075w | | promoter terminator combination, | | |
| | YMR076c | | similarity to Emmericella nidulans bimD protein | 1 | syntenie; covers codons 170-372 |
| PAG1204RP | YGR282c | BGL2 | endo-beta-1,3-glucanase of the cell wall | 1 | Promotor, Syntenie, see PAG1204UP |
| PAG1204UP | YGR284c | | similarity with mouse Surf-4 protein | 1 | Syntenie, see PAG1204RP |
| PAG1205RP | YJR104c | SOD1 | superoxide dismutase (EC 1.15.1.1) (Cu-Zn) | 1 | divergent Terminator (123 nt) |
| | YBL039c | URA7 | CTP synthase 1; last step in pyrimidine biosynthesis pathway | 1 | divergent Terminator (123 nt) |

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|-----------|---------|--|---|---|
| PAG1205UP | YHR150w | unknown function | 1 | former class III |
| PAG1206RP | YDR353w | putative thioredoxin reductase (NADPH) | 1 | Promotor |
| PAG1206UP | YHR103w | homology to hypothetical protein D9476.7 | 1 | |
| PAG1207RP | YPL072w | hypothetical protein | 2 | Syntenie, see PAG1107UP .Classification in Hom_Class 2 according to Syntenie |
| PAG1207UP | YPL074w | probable regulatory subunit of 26S proteasome complex | 1 | Syntenie, see PAG1107RP |
| PAG1208RP | | | | Mito |
| PAG1208UP | | | | Mito |
| PAG1209RP | YDL073w | putative mitochondrial protein | 2 | |
| PAG1210RP | YLR094c | hypothetical protein | 1 | Terminator, Syntenie, see PAG1210UP |
| PAG1210UP | YLR095c | hypothetical protein | 2 | Syntenie, see PAG1210RP |
| PAG1211RP | YHR072w | lanosterol synthase (EC 5.4.99.7) | 1 | |
| PAG1211UP | YDR317w | hypothetical protein | 2 | |
| PAG1212RP | YBR180w | similarity to drug resistance proteins | 1 | |
| PAG1212UP | YDL202w | hypothetical protein | 2 | |
| PAG1213RP | YJR005w | clethrin-associated protein complex beta chain, large subunit | 2 | |
| PAG1213UP | YLR007w | hypothetical protein | 1 | open frames whole length In +1 and -3, former class III |
| PAG1214RP | YIR008c | DNA polymerase alpha subunit 48KD (DNA PRI1 | 3 | open frame whole length In |

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|-----------|---------|--|----|--|
| PAG1214UP | YLL031c | primase) | -2 | |
| PAG1215RP | YIR035c | similarity to YJL062p | 4 | |
| | | similarity to YIR036p and YIL124p | 1 | Promotor, "Syntenie", see PAG1215UP. |
| | YIR036c | similarity to short-chain alcohol dehydrogenase family, YIR035p and YIL124p | 1 | Promotor, "Syntenie", see PAG1215UP |
| PAG1215UP | YIR035c | similarity to YIR036p and YIL124p | 1 | Promotor, "Syntenie", see PAG1215RP. |
| | YIR036c | similarity to short-chain alcohol dehydrogenase family | | |
| | | YIR035p and YIL124p | 1 | Promotor, "Syntenie", see PAG1215RP |
| PAG1216RP | YIL047c | protein for which truncation and overexpression can suppress \$ lethality of G-elph protein deficiency | 3 | open frams >300 nt In +2 |
| | | peptidylprolyl isomerase homolog | 4 | |
| PAG1216UP | YJR032w | homology to hypothetical proteins on chromosomes VII, XV and XVI | 1 | |
| PAG1218RP | YAL053w | homology to human SM22 homolog | 2 | Promotor |
| PAG1218UP | YOR367w | dynein heavy chain, cytosolic | 2 | Syntenie, see PAG1219UP, additional Hit see PAG1011I2 and RP |
| PAG1219RP | YKR054c | DYN1 | | |
| PAG1219UP | YKR056w | NUC2 | 1 | Syntenie, see PAG1219RP |
| PAG1220RP | YBR062c | unknown function | 2 | |

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|-----------|---------|-------|---|---|--|--|
| PAG1220UP | YDR044w | HEM13 | coproporphyrinogen III oxidase | 1 | | |
| PAG1221RP | YGL227w | | hypothetical protein | 2 | Terminator | |
| PAG1221UP | YER043c | SAH1 | S-adenosyl-L-homocysteine hydrolase | 1 | | |
| PAG1222RP | YLR403w | SFP1 | Involved in nuclear protein localization | 1 | Terminator, Syntenie, see PAG1222UP | |
| PAG1222UP | YLR401c | | hypothetical protein | 1 | Syntenie, see PAG1222RP | |
| PAG1223RP | YGR002c | | hypothetical protein | 1 | syntanie | |
| PAG1223UP | YGL003c | | unknown function, has MT-energy transfer proteins signature, has cytochrome c oxidase subunit I, copper B binding region elgnature | 1 | former class III.SYNTENIE | |
| PAG1224RP | YML127w | | hypothetical protein | 1 | | |
| PAG1224UP | YLL067c | | homology to other subtelomeric ancoded proteins | 3 | open frame > 300 nt in -1 | |
| PAG1225RP | YNL087w | | probably membrana protein | 1 | | |
| PAG1225UP | YKR092c | SRP40 | weak suppressor of a mutant of the subunit AC40 of DNA dependent RNA polymerase I and III | 3 | open frames > 500 nt in +2 (S-rich) and >450 nt in -1 | |
| PAG1226RP | YOR181w | LAS17 | proline-rich protein | 3 | open frame whole length in +2 | |
| PAG1226UP | YFL049w | | weak similarity to Npl6p (nuclear protein localization factor) | 2 | | |
| PAG1227RP | YDR262w | | hypothetical protein | 2 | | |
| PAG1227UP | YGR160w | | questionable ORF | 4 | | |

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|-----------|---------|-------|--|---|-------------------------------------|
| PAG1228RP | YFL008w | SMC1 | chromosome segregation protein | 1 | Promotor (CAI S.c. 0.16) |
| PAG1228UP | YAL017w | FUN31 | probable serine/threonine protein kinase | 1 | |
| PAG1230RP | YNL317w | | similarity to Arabidopsis thaliana PRL1 protein | 1 | |
| PAG1230UP | YOL138c | | hypothetical protein | 1 | |
| PAG1231RP | YMR176w | | hypothetical protein | 3 | open frame > 350 nt in -1 |
| PAG1231UP | YPL027w | | hypothetical protein | 3 | open frame > 400 nt in +1 |
| PAG1232RP | YGL027c | CWH41 | involved in beta-1,6-glucan assembly | 1 | open frame 300 nt in +1 |
| PAG1232UP | YBL014c | RRN6 | component of a multiprotein complex essential for | | |
| | | | initiation of RNA-POL I | 2 | |
| PAG1233RP | YKR092c | SRP40 | weak suppressor of a mutant of the subunit | 3 | open frame whole length |
| | | | AC40 of DNA dependent RNA polymerase I and III | | in +2 and nearly whole length in -3 |
| PAG1233UP | YML102w | | similarity to human chromatin assembly factor 1 | 2 | |
| | | | p60 chain | | |
| PAG1235RP | YDL122w | UBP1 | ubiquitin-specific protease | 1 | |
| PAG1235UP | YGL156w | AMS1 | alpha-mannosidase | 1 | |
| PAG1236RP | YDR373w | | homology to human BDR-1 protein and other calcium binding proteins | 1 | Promotor |
| | | | ubiquitin-specific proteinase (EC 3.4. -) | 1 | |
| PAG1238UP | YOR124c | UBP2 | putative alpha/gamma adaptin | 1 | |
| PAG1238RP | YPL195w | YKS4 | similarity with R07E5.13 protein (clone R07E5) - C. elegans | 1 | Promotor |
| PAG1238UP | YGL080w | | | | |
| PAG1240RP | | | | | Mito |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|--|--------------------------|
| PAG1240UP | YKR014C | YPT52 | GTP-binding protein | Mito |
| PAG1241RP | YJL080C | SCP160 | histone-like protein involved in control of mitotic chromosome transmission | Mito |
| PAG1241UP | YLR247C | RCK2 | weak similarity to S.pombe RAD8 protein | Mito |
| PAG1242RP | YLR248W | | calcium/calmodulin-dependent SER/THR protein kinase (CAM kinase) | Promotor (CAI S.c. 0.21) |
| PAG1242UP | YBL057C | | unknown function, non-essential | 1 |
| PAG1243RP | YER090W | TRP2 | Anthranilate synthase component I, first step in tryptophane biosynthesis pathway, non-essential | 1 |
| PAG1244UP | YHR165C | PRP8 | U5 snRNP protein, pre-mRNA splicing factor | 1 |
| PAG1245RP | YLR264W | RPS33B | ribosomal protein S28.e.c12 | 1 |
| PAG1245UP | O3364 | TY1A | TY1A protein | 3 |
| PAG1246RP | YDR531W | | hypothetical protein | 1 |
| PAG1246UP | YDR527W | | hypothetical protein | 2 |
| PAG1247RP | YNR044W | AGA1 | A-aggutinin anchor subunit | 3 |

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|-----------|---------|--|---|--|
| PAG1249RP | YOR244w | similarity to SAS2 protein (involved in silencing at HMR) | 1 | Syntenie, see PAG1249UP |
| PAG1249UP | YOR243c | hypothetical protein | 1 | Syntenie, see PAG1249RP |
| PAG1250RP | | | | Mito |
| PAG1250UP | | | | Mito |
| PAG1251RP | YCR076c | glycine-rich | 3 | open frames > 450 nt in +1 end > 400 nt in -3 |
| PAG1251UP | YMR259c | hypothetical protein | 2 | Terminator |
| PAG1252RP | YFR015c | UDP glucose--sterch glucosyltransferase 1 | 1 | |
| PAG1252UP | YFR014c | Ca2+/calmodulin-dependent serine/threonine protein kinase type I | 1 | |
| PAG1253RP | YGL122c | nuclear poly(A)-binding protein | 3 | open frame > 500 nt in +2 |
| PAG1253UP | YIL130w | similarity to probeble membrane protein YJL206c and Put3p | 1 | |
| PAG1254RP | YJR016c | dlhydroxy-acid dehydratase (EC 4.2.1.9) | 1 | Terminator |
| PAG1254UP | M_D113 | hypothetical protein | 4 | |
| PAG1255RP | YDR300c | glutamate 5-kinase | 1 | |
| PAG1256RP | YGL195w | component of a protein complex required for activation of Gcn2p protein kinase | 1 | Syntenie, see PAG1256UP |
| PAG1256UP | YGL194c | high similarity with RPD3 protein (transcription modifier protein) | 1 | Syntenie, see PAG1256RP |
| PAG1257RP | YGL147c | ribosomal protein RPL9 | 1 | Terminator |
| PAG1257UP | YDL117w | hypothetical protein | 2 | Terminator |
| PAG1258RP | YOL023w | mitochondrial translation Initiation factor 2 | 1 | |

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|-----------|---------|--------|---|---|---|
| PAG1258UP | YPL115c | BEM3 | GTPeese-activating protein for Cdc42p end Rho1p | 1 | Promotor (CAI S.c. 0.15) |
| PAG1258RP | YBR087w | RFC5 | replication factor C subunit 5 (40kDa) | 1 | |
| PAG1259UP | YBL036c | | similarity to <i>Caenorhabditis elegans</i> cosmid F09E5 | 1 | |
| PAG1260RP | YDR306c | | hypothetical protein | 2 | Promotor, Syntenie, see PAG1260UP, next to tRNA (Val) in S.c. |
| PAG1260UP | YDR304c | CPR5 | cyclophilin of the ER | 1 | Promotor, Syntenie, see PAG1260RP |
| PAG1261RP | YLR333c | RPS31B | ribosomal protein S25.e.c12 | 1 | Terminator |
| PAG1261UP | YLR336c | | hypothetical protein | 2 | Terminator |
| PAG1262RP | YER069w | ARG5,6 | acetylglutamate kinase | 1 | Syntenie, see PAG1262UP |
| PAG1262UP | YER068w | MOT2 | transcriptional repressor | 1 | Promotor, Syntenie, see PAG1262RP |
| PAG1263RP | YJR090c | GRR1 | required for glucose repression and for glucose and cation transport | 1 | |
| PAG1263UP | YIR019c | STA1 | extracellular glucosylase | 3 | open frame > 400 nt in -1 |
| PAG1264RP | YBL051c | | similarity to <i>Schizosaccharomyces pombe</i> protein Z66568_C | 4 | |
| PAG1264UP | YHR202w | | hypothetical protein | 1 | |
| PAG1265RP | YHR143w | | similarity to a-agglutinin core protein AGA1 | 3 | open frame 450 nt in -1, same as PAG1176 |
| PAG1265UP | YNL083w | | hypothetical protein | 1 | same as PAG1176 |

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|-----------|---------|-------|---|---|--|
| PAG1266RP | YGL163c | RAD54 | DNA-dependent ATPase of the Snf2p family | 1 | |
| PAG1266UP | YNL066w | SUN4 | homology to Cendla wickerhamii beta-glucosidase (EC 3.2.1.21) | 3 | open frame > 400 nt in +3, check Hom_Class, better 2 (25%/95 aa) |
| PAG1267RP | YLL040c | | hypothetical protein | 4 | |
| PAG1267UP | YGR054w | | hypothetical protein | 3 | open frame nearly whole length in +1 |
| PAG1268RP | YGL142c | | hypothetical protein | 1 | |
| PAG1268UP | YDL108w | KIN28 | cyclin-dependentSER/THR protein kinase component | | |
| | | | of transcription initiation factor TFIIF | 1 | Terminator + Promotor (177 nt, see 2nd Hit for Promotor), Syntenie |
| | YDL107w | MSS2 | serine/threonine protein kinase | 2 | Terminator + Promotor (177 nt, see 1st Hit for Terminator), ATG not Inframe Syntenie |
| PAG1269RP | YCL057w | PRD1 | saccharolysin;protease yscD | 2 | Terminator |
| PAG1269UP | YPL101w | | hypothetical protein | 1 | |
| PAG1270RP | YLR106c | | putative membrane protein | 2 | longest yeast gene, only 1 gene on clone |
| PAG1270UP | YLR106c | | putative membrane protein | 1 | longest yeast gene, only 1 gene on clone |
| PAG1271RP | | | | | Mito |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|--|---|
| PAG1271UP | | | | |
| PAG1272RP | YDR083W | | hypothetical protein | 1 Terminator |
| PAG1272UP | YIR019c | STA1 | extreacellular glucoamylase | 3 open frame whole length in +3 (?) |
| PAG1273RP | YCR098c | | similarity to Pho84p, Itr1p, Itr2p (myo-inositol transporter) end to E. coli citrate transport protein | 1 |
| PAG1273UP | YGR160W | | questionable ORF | 4 |
| PAG1274RP | YOR338W | | similarity to FUN19 protein | 4 |
| PAG1274UP | YOR347c | | similarity to pyruvate kinase Pyk1p | 1 Terminator |
| PAG1275RP | YKL079W | SMY1 | member of the kinesin family that can interact with or substitute for Myo2p | 3 open frame whole length in -3 |
| PAG1275UP | YKL081W | TEF4 | elongation factor eEF-1 gamma chain | 2 Intron possible, same position like in S.c., unusual 5'-splice site |
| PAG1277RP | YKR043c | | similarity to phosphoglycerate mutase (EC 5.4.2.1) | 1 |
| PAG1277UP | YNR044W | AGA1 | A-eggulinin anchor subunit | 3 open frame > 500 nt in -1 |
| PAG1278RP | YDL042c | SIR2 | protein involved in maintenance of silencing of HMR, HML end telomeres | 2 Terminator |
| PAG1278UP | YOL067c | RTG1 | basic helix-loop-helix (BHLH) transcription factor see 2nd hit (CAI S.c. 0.12) | 1 Divergent Promoter of 215 nt, for 2nd Promoter |
| | YDL007W | YTA5 | similarity to human S4 component of 26S | 2 divergent Promoter of 215 |

| | protease | | | nt, for 1st Promotor see 1st Hit |
|-----------|----------|-------|---|---|
| PAG1279RP | YCR032w | | | only 1 gene on clone |
| PAG1279UP | YCR032w | | | Terminator, only 1 gene on clone |
| PAG1280RP | YBR156c | | | open frame whole length in -2, two separated short blocks with high homology |
| PAG1280UP | YPR026w | ATH1 | 1 | required for vacuolar acid trehalase activity |
| PAG1281RP | YER172c | BRR2 | 1 | RNA helicase-related protein |
| PAG1281UP | YER171w | RAD3 | 1 | DNA helicase/ATPase |
| PAG1282RP | YBL019w | | 1 | hypothetical protein |
| PAG1282UP | YBL022c | PIM1 | 2 | serine protease required for Intramitochondrial proteolysis |
| PAG1283RP | YPL217c | | 1 | hypothetical protein |
| PAG1283UP | YPL219w | | 1 | similarity to hypothetical protein (chromosome VII) |
| PAG1284RP | YDL126c | CDC48 | 1 | microosomal protein of CDC48/PAS1/SEC18 (AAA) family of ATPases |
| PAG1284UP | YOR348c | PUT4 | 1 | proline and gamma-aminobutyrate permease |
| PAG1285RP | YGR068c | | 1 | with sim to ROD1(which is a protein that mediates resistance to o-dinitrobenzene) |
| PAG1285UP | YMR137c | PSO2 | 2 | DNA repair protein for interstrand crosslinks Terminator |

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|-----------|---------|-------|--|---|---|
| PAG1286RP | YBR204c | | similarity to peroxisomal serine-active lipase | 3 | open frame > 400 nt in -3, |
| PAG1286UP | YIR019c | STA1 | extracellular glucoamylase | 3 | open frames > 500 nt in +1 end -3 |
| PAG1287RP | YBL004w | | hypothetical protein | 1 | |
| PAG1287UP | YDL003w | RHC21 | similarity to S.pombe rad21 | 2 | |
| PAG1289UP | YKR072c | SIS2 | stimulates G1 cyclin expression | 1 | |
| PAG1289RP | YGR061c | ADE6 | 5'-phosphoribosylformyl glycineamide synthetase | 4 | |
| PAG1291UP | YKL211c | TRP3 | contains anthranilate synthase (EC 4.1.3.27); glutamine amidotransferase (EC 2.6.1.-); indole-3-glycerol-phosphate synthase (EC 4.1.1.48) | 1 | |
| PAG1292RP | | | | | Mito |
| PAG1292UP | | | | | Mito |
| PAG1293RP | YGL062w | PYC1 | pyruvate carboxylase 1 | 1 | |
| PAG1293UP | YPL187w | | MFalpha1; mating pheromone alpha-1 precursor | 3 | open frames 300 nt in +2 and > 400 nt in +1, check Hom_Class: mating pheromone in S.c. is processed a lot |
| PAG1294RP | YLR147c | SMD3 | snRNA-associated protein of the SM class required for pre-mRNA splicing, enRNP D3 homolog | 1 | open frame > 300 nt in +3, former class III |
| PAG1294UP | YDR167w | TAF25 | similarity to human TBD-associated factor 30 | 1 | Promotor + Terminator (171 |

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|--|-----------|---------|-------|---|---|-----------------------------------|--|
| | PAG1295RP | YJL172W | CPS1 | Gly-X carboxypeptidase (EC 3.4.17.4) precursor | 2 | Hlt, Syntenle | |
| | PAG1295UP | YMR298W | | hypothetical protein | 2 | | |
| | PAG1296RP | YGL246C | | hypothetical protein | 1 | | |
| | PAG1296UP | YFR050C | PRE4 | proteasome subunit | 1 | | |
| | PAG1297RP | YGL123W | SUP44 | ribosomal protein SUP44/RPS4 | 1 | Promotor (CAI S.c. 0.80) | |
| | PAG1297UP | YMR136W | | hypothetical protein | 2 | | |
| | PAG1299RP | YLR223C | IFH1 | controlling pre-tRNA processing machinery in conjunction with Fhl1p | 3 | open frame > 350 nt in -1 | |
| | PAG1299UP | YAL017W | FUN31 | probable serine/threonine protein kinase | 1 | | |
| | PAG1300RP | YOR104W | | hypothetical protein | 3 | open frames > 350 nt in +1 and -2 | |
| | PAG1300UP | YNL097C | | eimilarity to YHR090p (similarity to human zinc finger/fecucine zipper protein) and YM9916.14 (Chr. XV) | 1 | | |
| | PAG1301RP | YCL064C | CHA1 | L-serine/L-threonline deaminase | 1 | Syntenle, see PAG1301UP | |
| | PAG1301UP | YCL061C | | partial identity to hypothetical protein 1 (URK1 5' region) | 2 | Syntenle, see PAG1301RP | |
| | PAG1302RP | YGR058W | | wack similarity with calcium-binding protein | 1 | | |

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|-----------|---------|-------|--|---|---|
| PAG1302UP | YOR291w | | (clone pMP41) - mouse weak similarity to cation translocating ATPases | 1 | |
| PAG1303RP | YLR106c | | putative membrane protein | 3 | open frame > 350 nt in +2 or ending frame > 250 nt in -1 |
| PAG1303UP | YGR023w | | similarity with Mld2p and Kai1p | 3 | open frame whole length in -2 |
| PAG1304RP | YNL221c | POP1 | component of ribonuclease P and ribonuclease MRP | 1 | for continuation of Syntenie (also match to YNL221c) |
| PAG1305RP | YDR192c | NUP42 | nucleoporin | 3 | open frame whole length in -2 |
| PAG1305UP | YNL246w | | similarity to D.melanogaster SET protein | 2 | cannot be checked for intron, not on sequence of PAG1305UP |
| PAG1306RP | YDL240w | LRG1 | GTPase-activating protein of the rho/rac family | 1 | |
| PAG1306UP | YGL133w | | similarity with hypothetical protein (chromosome XVI) P1770 | 3 | open frame whole length in +2 |
| PAG1307RP | YKL142w | MRP8 | ribosomal protein MRP8, mitochondrial | 1 | Syntenie, see PAG1307UP |
| PAG1307UP | YKL145w | CIM5 | tat-binding protein homolog; probable 26S protease subunit | 1 | Syntenie, see PAG1307RP |
| PAG1308RP | YLL034c | | similarity to mammalian velosin | 1 | divergent Terminator (100 nt), for 2nd Terminator see 2nd Hlt, Syntenie, see PAG1308RP 2nd Hlt |

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|-----------|------|--|----|
| YLL035w | 2 | divergent Terminator (100 nt), for 1st Terminator see 1st Hit, Syntenie, see PAG1308RP 1st Hit | 5 |
| PAG1308UP | 2 | Homology due to zinc-finger? | 10 |
| YHL027w | 2 | single-stranded zinc-finger DNA binding protein required for replication in mitochondria | 15 |
| PAG1309RP | 1 | copper-transporting P-type ATPase of the cation transport (E1-E2) ATPase family | 20 |
| YDR270w | CCC2 | | 25 |
| PAG1309UP | MSW1 | mitochondrial tryptophanyl-tRNA synthetase | 30 |
| YOR038c | HIR2 | histone transcription regulator | 35 |
| YLR245c | | homology to cytidine deaminases (EC 3.5.4.5) | 40 |
| YDR080w | | unknown function | 45 |
| YBR081c | SPT7 | probable transcription factor, suppressor of Ty transcription | 50 |
| YDR523c | | Ser/Thr protein kinase, limited homology only | 55 |
| PAG1312UP | TOR2 | phosphatidylinositol 3-kinase required for G1 progression | |
| PAG1313RP | | hypothetical protein | |
| PAG1313UP | | weak similarity to human BRCA2 early onset | |

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|-----------|---------|--------|---|---|---|--|
| PAG1314RP | YGR023W | | breast cancer gene | | | |
| PAG1314UP | YJR151C | | similarity with Mid2p and Kei1p | 3 | open frame > 350 nt In -3 | |
| PAG1315RP | YPRI81C | SEC23 | similar to proteins of the Srp1p/Tip1p family | 4 | | |
| PAG1315UP | YPRI84W | | component of COPII coat of ER-golgi vesicles | 1 | Syntenie, see PAG1315UP | |
| | | | protein with strong similarity to glycogen | 1 | Promotor, Syntenie, see PAG1315RP | |
| | | | debranching enzyme (4-alpha- glucanotransferase) | | | |
| PAG1316RP | YLR440C | | hypothetical protein | 2 | | |
| PAG1316UP | YLR441C | RP10A | ribosomal protein S3a.e | 1 | Promotor | |
| PAG1317RP | YJL085W | | hypothetical protein | 1 | Syntenie, see PAG1317up | |
| PAG1317UP | YJL087c | TRL1 | tRNA ligase (EC 6.1.1.-) | 1 | Syntenie, see PAG1317RP | |
| PAG1318RP | YIL159w | | similarity to BNI1 protein | 3 | open frames > 300 nt In -2 | |
| PAG1318UP | YER073W | | probable aldehyde dehydrogenase (NAD+) | 3 | open frames > 450 nt in -3 and > 600 nt in +2 | |
| PAG1319RP | YMR277w | | hypothetical protein | 1 | Syntenie, see PAG1319UP | |
| PAG1319UP | YMR276w | DSK2 | ubiquitin-like protein | 1 | Syntenie, see PAG1319RP | |
| PAG1320RP | YOR207c | RPC128 | DNA-directed RNA polymerase (EC 2.7.7.6) iii | 1 | | |
| | | | second-largest chain | | | |
| PAG1320UP | YMR147w | | hypothetical protein | 4 | | |
| PAG1321RP | YBL020w | RFT1 | involved in nuclear division | 1 | Syntenie, see PAG1321UP | |
| | | | | | 1st end 2nd Hii | |
| PAG1321UP | YBL018c | | hypothetical protein | 1 | divergent Terminator (38 nt), Syntenie, see PAG1321RP and | |

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|-----------|---------|-------|--|---|---|
| PAG1327RP | YER011w | TIR1 | cold-shock induced protein of the Tir1p, Tip1p family | 4 | |
| PAG1327UP | YLR337w | VRP1 | proline-rich protein verprolin | 4 | |
| PAG1328RP | YNL201c | | Involved in regulation of carbon metabolism | 2 | Syntenie, see PAG1328UP, Classsification in Hom_Class 2 according to Syntenie |
| PAG1328UP | YNL200c | | hypothetical protein | 1 | Syntenie, see PAG1328RP |
| PAG1330RP | YLL039c | UBI4 | ubiquitin precursor | 1 | 100 % Identity on AA-level, 78.3% on DNA, Syntenie, see PAG1330UP |
| PAG1330UP | YLL036c | PRP19 | non-snRNP spliceosome component | 1 | Most probable Intron In A.g. but NOT in S.c. Syntenie, see PAG1330RP |
| PAG1331RP | YDR150w | NUM1 | nuclear migration protein | 2 | open frame > 450 nt in -2, 30% Ident./140 aa, check Hom_Class: better 3? |
| PAG1331UP | YNR044w | AGA1 | A-eggulinin anchor subunit | 3 | open frames > 400 nt in +2> 350 nt in +3 and > 350 nt in +3 |
| PAG1332RP | YKL014c | | hypothetical protein | 3 | open frame nearly whole length in +1 |
| PAG1332UP | YJL194w | CDC6 | involved in Initiation of DNA replication and spindle function | 2 | Terminator |

| | | | | |
|-----------|---------|---|---|---|
| PAG1334RP | YHR217c | similarity to hypothetical protein (chromosome IV) | 3 | open frame whole length in -2 and +2 |
| PAG1334UP | YMR038c | homocitrate dehydrogenase | 1 | |
| PAG1335RP | YKL129c | myosin type I | 3 | open frames whole length in -2 and 300 nt in +3 |
| PAG1335UP | YOR008c | similarity to N0583 | 4 | |
| PAG1336RP | YJR092w | required for formation of axial but not bipolar budding pattern | 1 | Terminator, Syntenie, see PAG1336UP |
| PAG1336UP | YJR095w | protein of the mitochondrial carrier (MCF) family | 1 | Promotor, Syntenie, see PAG1336RP |
| PAG1337RP | | | | Mito |
| PAG1337UP | | | | Mito |
| PAG1338RP | M_A384 | hypothetical transmembrane protein | 4 | |
| PAG1338UP | YCR065w | transcription factor | 2 | |
| PAG1339RP | YDL244w | nearly identical to Thi5p (involved in pyrimidine biosynthesis pathway), YJR156p, and YNL332w (hmt1 homolog to fission yeast and Aspergillus parasiticus) | 1 | Promotor, YNL332w near telomere |
| PAG1339UP | YKL213c | protein involved in ubiquitin proteolysis | 1 | Terminator |
| PAG1340RP | YMR004w | required for sorting proteins to the vacuole | 1 | Terminator, Syntenie (?), see PAG1340UP |
| PAG1340UP | YMR003w | hypothetical protein | 2 | Terminator, Syntenie (?), see PAG1340RP |
| PAG1341RP | YPL242c | hypothetical protein | 4 | |

| | | | | | |
|-----------|---------|--------|---|---|---|
| PAG1341UP | YFL036w | RPO41 | mitochondrial DNA-directed RNA polymerase | 1 | |
| PAG1342RP | YNR030w | | weak similarity to SMP3 protein (functions in the protein kinase C pathway) | 2 | |
| PAG1342UP | YPR088c | SRP54 | signal recognition particle 54K protein homolog | 1 | |
| PAG1343RP | YKL134c | (MIP1) | mitochondrial intermediate peptidase (EC 3.4.24.-) precursor | 1 | |
| PAG1343UP | YLR109w | | similarity to Candida boldinii peroxisomal membrane protein 20K A | 4 | UGG tRNA (Pro), pos. 434-545, intron pos.470-509 (40 nt), intron in S.c. 32nt, w/o intron only 1 difference |
| PAG1344RP | | | | | Mito |
| PAG1344UP | | | | | Mito |
| PAG1345RP | YPL042c | SSN3 | cyclin-dependent serine/threonine protein kinase of the RNA polymerase II holoenzyme complex and kornberg's mediator (SRB) subcomplex | | |
| PAG1345UP | YPL040c | ISM1 | mitochondrial leucine-tRNA ligase (EC 6.1.1.5) | 1 | Syntenie, see PAG1345UP |
| PAG1347RP | YBR221c | PDB1 | pyruvate dehydrogenase (lipoamide) beta chain precursor | 1 | Syntenie, see PAG1345RP |
| PAG1347UP | YGL126w | SCS3 | probably involved in the synthesis of inositol phospholipids | 2 | Promotor (CAI S.c. 0.34) |

| | | | | | |
|-----------|---------|--------|---|---|---|
| PAG1349RP | YELO11w | GLC3 | 1,4-glucan branching enzyme (glycogen branching enzyme) | 1 | Promotor (CAI S.c. 0.13) |
| PAG1349UP | YCR017c | | putative membrane protein | 1 | |
| PAG1350RP | YPR105c | | hypothetical protein | 2 | Promotor, Syntenie, see PAG1350UP |
| PAG1350UP | YPR106w | | similarity to protein Kinases Gcn2p, galactosyltransferase-associated protein kinase P58/GTAP, and the raf proto-oncogene | 2 | Syntenie, see PAG1350RP |
| PAG1351RP | | | | | Mito |
| PAG1351UP | | | | | Mito |
| PAG1352RP | YFL033c | | similarity with to S.pombe CEK1 serine/threonine protein kinase | 2 | |
| PAG1353RP | YDR456w | | similarity to NA ⁺ -H ⁺ antiporters | 2 | Terminator |
| | YML031w | NDC1 | component of the nuclear envelope | 2 | Terminator, Syntenie, see PAG1335UP 1st Hit |
| PAG1353UP | YML029w | | putative membrane protein | 2 | Terminator, Syntenie, see PAG1353RP 2nd Hit |
| PAG1354UP | YOR017w | PET127 | probable mitochondrial translation factor | 2 | |
| PAG1355RP | YCR092c | MSH3 | DNA-repair protein | 2 | Syntenie, see PAG1355UP, order wrong |
| PAG1355UP | YCR094w | | homology to hypothetical protein YNL323w and EST from rice | 2 | Syntenie, see PAG1355RP, order wrong |
| PAG1356RP | YKR092c | SRP40 | weak suppressor of a mutant of the subunit | 3 | open frame whole length in |

| | | | | AC40 of DNA dependent RNA polymerase I and III | -3 |
|-----------|---------|-------|--|---|--|
| PAG1356UP | | | | SP entry: UAPC_EMENI purine permease | 2 |
| PAG1357RP | YPL158c | | | hypothetical protein | 3 open frame whole length In -2 |
| PAG1357UP | YPL155c | KIP2 | | kinesin-related protein | 1 |
| PAG1359RP | YIL130w | | | similarity to probable membrane protein YJL206c (probable regulatory zinc-finger protein) end Put3p (positive activator of the proline utilization pathway) | 4 |
| PAG1359UP | YER163c | | | hypothetical protein | 1 |
| PAG1360RP | YCR057c | PWP2 | | periodic tryptophen protein | 1 |
| PAG1360UP | YLR342w | GLS1 | | component of beta-1,3-glucan synthase | 1 |
| PAG1362RP | YOR340c | RPA43 | | essential subunit of RNA polymerase I | 1 Terminator |
| PAG1362UP | YCR065w | HCM1 | | transcription factor | 3 open frames > 350 nt in +3 and > 300 nt in -3 |
| PAG1363RP | YLR454w | | | similarity to hypothetical protein YPR117w | 1 |
| PAG1363UP | YDL037c | | | putative glucan 1,4-alpha-glucosidase (EC 3.2.1.3) | 3 open frame whole length In +2 |
| PAG1364RP | YDL108w | KIN28 | | cyclin-dependent serine/threonine protein kinase component of transcription Initiation factor TFIH | 1 Terminator, cannot be checked for intron, not on |

| | | | | | sequence of PAG1363RP | |
|-----------|---------|--|---|--|--|--|
| PAG1364UP | YGL142c | hypothetical protein | 1 | | | |
| PAG1365RP | YIL011w | similarity to YIL176p, YIR041p and other members of the Srp1p/Tip1p family | | | | |
| PAG1365UP | YHR144c | deoxycytidylate deaminase (EC 3.5.4.12) | 1 | | | |
| PAG1366RP | YLR413w | homology to hypothetical protein YKL187c | 3 | | open frame whole length in +3 (?) | |
| PAG1366UP | YKL188c | similarity to human adrenoleukodystrophy (ALD) protein and yeast peroxisomal protein Pal1p | 1 | | | |
| PAG1367RP | YHR089c | associated with snoRNA end involved in 35S rRNA processing | 1 | | | |
| PAG1367UP | YBR115c | L-aminoadipate-semialdehyde dehydrogenase | 1 | | | |
| PAG1368RP | YDL171c | putative glutamate synthase | 1 | | | |
| PAG1368UP | YNR012w | uridine kinase | 1 | | | |
| PAG1369RP | YPR175w | DNA-directed DNA polymerase II chain B | 1 | | Terminator, Syntenie, see PAG1369UP, same as PAG1144 | |
| PAG1369UP | YPR179c | hypothetical protein | 1 | | Syntenie, see PAG1369RP, same as PAG1144 | |

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|-----------|---------|------|--|---|--|
| PAG1370RP | YJL102w | MEF2 | translation elongation factor | 2 | |
| PAG1370UP | YKR026c | GCN3 | translation initiation factor eIF2B (guanine nucleotide exchange factor), 34 KD, alpha subunit | | 1 Terminator |
| PAG1371RP | YFR050c | PRE4 | proteasome subunit | 1 | |
| PAG1371UP | YGL246c | | hypothetical protein | 1 | Mito |
| PAG1372RP | | | | | Mito |
| PAG1372UP | | | | | seems to be Mito but |
| PAG1373RP | | | | 4 | PAG1373UP is not, Chimera? strong homology to S.c. mitochondrial ATPase (72%/48ae) |
| PAG1374RP | YDL105w | QRI2 | function unknown | 2 | |
| PAG1374UP | YMR167w | MLH1 | mismatch repair protein | 1 | Terminator |
| PAG1375RP | | | | | Mito |
| PAG1376RP | | | | | Mito |
| PAG1378UP | | | | | Mito |
| PAG1379RP | YJL083w | | homology to hypothetical protein YKR019c | 1 | Syntenie, see PAG1379UP |
| PAG1379UP | YJL084c | | homology to hypothetical protein YKR021w | 1 | Syntenie, see PAG1379RP |
| PAG1380RP | YCL043c | PDI1 | protein disulfide-isomerase precursor | 1 | Syntenie, see PAG1380UP |
| PAG1380UP | YCL040w | GLK1 | aldohexose specific glucokinase | 1 | Syntenie, see PAG1380RP |
| PAG1381RP | | | | | Mito |

| Accession | Gene | Protein | Length | Source |
|-----------|---------|---------|--------|-------------------------|
| PAG1390RP | | | | PAG1389RP |
| PAG1390UP | | | | Mito |
| PAG1391RP | YPR189w | SK13 | 1 | Mito |
| PAG1391UP | YPR190c | RPC82 | 1 | Syntenie, see PAG1391UP |
| PAG1392RP | YLR274w | CDC46 | 1 | Syntenie, see PAG1391RP |
| | | | | |
| PAG1393RP | YGL240w | | 1 | Syntenie, see PAG1393UP |
| PAG1393UP | YGL241w | | 1 | Syntenie, see PAG1393RP |
| | | | | |
| PAG1394RP | YBR176w | | 1 | |
| PAG1394UP | YPL101w | | 1 | |
| PAG1396RP | YNR023w | | 1 | |
| | | | | |
| PAG1396UP | YNR021w | | 2 | |
| PAG1397RP | YGR098c | ESP1 | 2 | |
| PAG1397UP | YGR098c | ESP1 | 1 | |
| PAG1398UP | YMR291w | | 2 | |
| PAG1399RP | YDR338c | | 1 | |
| PAG1399UP | YJL158c | | 1 | |
| | YKL163w | PIR3 | 1 | |
| PAG1399UP | YKL164c | PIR1 | 1 | |

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|-----------|---------|-------|---|---|--|
| | | | | | 5 |
| | | | | | 10 |
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| | | | | | 45 |
| | | | | | 50 |
| | | | | | 55 |
| PAG1400RP | YDL167c | ARP1 | unknown function | 1 | |
| PAG1400UP | YLR200w | | similar to KE2 protein (Mus musculus), encoded in MHC region and expressed in embryo | 1 | |
| PAG1401RP | YDR406w | PDR15 | Member of ATP-binding cassette (ABC) protein family | 1 | very good homology to YOR153W |
| PAG1401UP | | | has 43/45bases identity to rDNA transcription end. the rest might be the promoter region of YDR406w which was hit with the RP-SRS | 2 | Chimeric plasmid? |
| PAG1402RP | YOR023c | | unknown function | 1 | |
| PAG1402UP | YOR161c | | unknown function | 1 | |
| PAG1403RP | YBR280c | | YBR280c:sim to SRM1p/PRP20p YJL068c:sim to human esterase D | 1 | Syntenie two genes covered by RP SRS;end of syntenie |
| PAG1403UP | YBR281c | | has beta-transducin (WD40) repeats | 1 | |
| PAG1404RP | YPL012w | Lpa5p | unknown function | 1 | syntenie |
| PAG1404UP | YPL014w | LPA3 | unknown function | 1 | mito ribosomal S24 protein |
| PAG1405RP | | | | 4 | |
| PAG1405UP | YHR086W | NAM8 | protein essential for meiotic recombination and suppressor of MT-splicing defects, has 3 RNA recognition domains | 1 | |

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|-----------|--------------------|-------|---|---|---|
| PAG1406RP | YHR007C | ERG11 | Cytochrome P450 L1 (14DM) (Lanosterol 14-alpha-demethylase) | 1 | |
| PAG1406UP | YPL026c | SHA3 | SatThr-protein kinase, suppressor of Hta1p mutations that cause aberrant transcription | 1 | |
| PAG1408RP | MITO-DNA | | | | Chimeric Plasmid |
| PAG1408UP | YBR072w | HSP26 | YEAST HEAT SHOCK PROTEIN 26 expressed during entry to stationary phase and induced by osmostrase | 1 | |
| PAG1409RP | YPR154W | | YPR153W: unknown function, gene may be spliced; YPR154W: protein with similarity to several SH3 domain-containing proteins including myosin ID and IC heavy chains, human growth factor receptor-bound grb2 protein, C. elegans sex muscle abnormal protein 5 | 1 | syntania, two genes covered by RP-SRS; |
| PAG1409UP | YPR153W YPR156c | | member of the major facilitator superfamily (MFS) multidrug resistance proteins family 1 | 1 | YPR155c: NCA2: protein required for CTRL of MT synthesis of ATP6 and ATP8; Hit no 1: YGR138C (putative drug transporter) neglected due to synteny |
| PAG1410RP | YOR116c | | YOR116c: RPO31: RNA-POL III largest subunit | 1 | synteny |

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|-----------|----------|--|---|--|
| PAG1410UP | YOR117w: | YOR117w: YTA1: Syntania: subunit of 26S proteasome complex | 1 | syntenie |
| PAG1412RP | YJR153w | and member of the ATPase family | 1 | |
| PAG1412UP | | sim to polygalacturonases | 4 | |
| PAG1413RP | YDR150w | NUM1 | 1 | syntania ;should contain the N-term of NUM1 |
| PAG1413UP | YDR152w | unknown function | 1 | Syntania |
| | | | 1 | YDR151c:CTH1:protain of tha mammalian growth factor induced protalns, len 325 aa |
| PAG1414RP | YLR272c | unknown function | 1 | |
| PAG1414UP | | | 4 | |
| PAG1415RP | YGR271w | seems to be an RNA-helicase related protein; | 1 | just one gena on this plasmid |
| PAG1415UP | YGR271w | has sim to Yar172p; has A(P-loop) | 1 | UP-SRS covers 1917aa to 1676aa |
| PAG1416RP | YLR430w | SEN1 | 1 | codons1790 up to 1971;C-term including terminator should be on this plasmid;syntenia |
| PAG1416UP | YLR432w | protein highly similar to PUR5p and inosine- | 1 | syntenie |

5'-monophosphate of human end E.coli, has
sim to YML056c (which was actually hit no 1)

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|-----------|----------|---|---|--|
| PAG1417RP | YPR183W | Dolichol-phosphate mannosyltransferase | 1 | syntenic.SMX3:YPR182W: SnRNA associated protein |
| PAG1417UP | YPR181C | SEC23 | 1 | syntenic |
| PAG1418RP | YCL060C | Protein transport protein | 1 | syntenic |
| PAG1418UP | YCL061C | protein with sim to SDL1 L-serine dehydratase | 1 | syntenic |
| PAG1419RP | YLR219W | unknown function | 1 | syntenic |
| PAG1419UP | | | 2 | |
| PAG1420RP | YJR107W | sim to acylglycerol lipase | 4 | |
| PAG1420UP | YJR014W | YJR014W: unknown | 1 | two genes covered by UP- |
| PAG1421RP | YNL075W | function YGR188W: unknown function | 1 | SRS |
| PAG1421UP | | unknown function | 1 | |
| PAG1422RP | YGL091C | only sim with Ser/Thr rich sequences | 4 | |
| | NBP35 | NBP35: nucleotide binding protein (ATP/GTP) | 1 | syntenic |
| | YGL092W | nuclear pore protein (nucleoporin) | 1 | |
| PAG1422UP | YGL092W | | 1 | Hit no 1 to YGL172W |
| | | | | corresponds to NUP49 and |
| | | | | was disregarded due to |
| | | | | syntenic |
| PAG1423RP | YDR189W: | SLY1 | | |
| | | SLY1 | | SLY1: YDR189W: member of the SEC1-family. |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|---|--|
| PAG1423UP | YDR191W | HST4 | involved in vesicle trafficking between the ER and Golgi | 1 syntenic |
| PAG1424RP | YDR191W | HST4 | sim to SIR2 | 1 has A(P-loop) |
| PAG1425RP | YLR187W | | YLR187W unknown function, sim to YNL278W | 1 YNL278W was hit no 5: gives weak indication of syntenic or a probable homology region for chromosomal rearrangements |
| PAG1425UP | YNL279W | | probable membrane protein | 1 weak syntenic |
| PAG1426RP | YDR196C | | unknown function, has A(P-loop) | 1 two genes covered with RP-SRS |
| PAG1426UP | YDR197W | CBS2 | CBS2: translational activator of COB mRNA, non-essential | |
| PAG1427RP | YDR194C | MSS16 | MSS16: MT RNA helicase of the DEAD box family required for splicing of group II introns of COX1 end COB | 1 syntenic; neighboring-clone to SLY1 |
| PAG1427UP | YDL143W | CCT4 | Component of chaperonin containing T-complex | 1 end of syntenic |
| PAG1428RP | YLR214W | FRE1 | ferric (end cupric) reductase, acts on ferric iron chelates external to the cell | 1 syntenic; two genes with RP-SRS |
| PAG1428UP | YLR215C | | unknown function | 1 syntenic |

| | | |
|-----------|---|--|
| YLR215C | 1 | same gene sequenced with RP-SRS |
| PAG1428RP | 1 | syntenic, whole gene on plasmid |
| PAG1428UP | 1 | start of gene, syntenic. Two genes covered by UP-SRS |
| YDL061c | 1 | syntenic. Two genes covered by UP-SRS; identical to YLR388w |
| PAG1429RP | 4 | |
| PAG1429UP | 1 | protein with weak sim to human bcr (break point cluster) protein |
| PAG1430RP | | YLR213C: unknown function, has WAP-type 'four disulfide core' |
| | 1 | domain signature |
| YDL144C | 1 | unknown function |
| PAG1430UP | | YDL145c: RET1: N-Term has 4 WD-beta transducin repeats. |
| | 1 | Coatomer complex alpha chain |
| PAG1431RP | 1 | protein with sim to transcription factors, has Zn(2)-Cys(6) fungal-type binuclear cluster domain in the N-terminal |

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|-----------|---------|-------|--|---|---|---|
| PAG1437RP | YOR224C | RPB8 | hydanoinases hyuA-hyuB RPB8:Shered subunit of RNA-POL I,II,III, essential protein with sim to nitrogen fixation proteins | 1 | 1 | syntenic. Two genes with RP-SRS Hit no3 was YPL135w:LP110:protein with sim to H. influenza nitrogen fixation protein HIU32721-12 which was equally good as hit no 2. Taken this we reach syntenic to PAG1437UP |
| PAG1437UP | YPL133C | LP112 | protein with sim to transcription factors, has Zn(2)-Cys(6) fungal type binuclear cluster domain in the N-terminal region | 1 | 1 | syntenic |
| PAG1438RP | YJR132W | NMD5 | Nam7p/Upf1p interacting protein. Nam7p: protein involved in decay of mRNA containing nonsense codons | 1 | 1 | |
| PAG1438UP | YBR079C | | protein homologous to surface antigens from trophoblast endothelial activated lymphocytes and P.falciparum unknown function | 1 | 1 | |
| PAG1439RP | YGR276C | | | 1 | 1 | |
| PAG1440RP | YGL137W | SEC27 | Coatomer complex beta chain of secretory pathway vesicles required for transport from ER | 1 | 1 | syntenic. Two genes with RP-SRS. C-term must be |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|--|----------|---|
| PAG1440UP | YGL136c | protein with sim to E.coli ftsJ protein | 1 | shorter in the AG-gene |
| | YGL134w | unknown function | 1 | YGL134w-YGL137w Syntenie. YGL134w: unknown; 135w: SSM1B; ribosomal protein homologous to L1; 136c: protein with sim to E.coli ftsJ protein; 137w: SEC27 |
| PAG1442RP | YLR149c | unknown function | 1 | syntenie |
| PAG1442UP | YLR150w | protein with specific affinity for guanine rich quadruplex nucleic acids end multicopy suppressor of pop2; G4 quadruplex nucleic acid binding protein; multicopy suppressor of tom1 end pop2 mutations | 1 | eyntenie |
| PAG1443RP | YGL141w | unknown function | 2 | |
| PAG1443UP | YMR171c | Aldehyde dehydrogenase2 | 1 | or rather YMR170c |
| PAG1444RP | YFR042W | unknown function | 1 | |
| PAG1444UP | YGL232w | protein with sim to dihydropteroate synthase | 1 | |
| PAG1445RP | | | 4 | |
| PAG1445UP | YOR281c | protein with weak sim to phosphatases | 1 | |
| PAG1446RP | YHR077C | protein involved in decay of mRNA containing nonsense codons | 1 | syntenie. Two genes with RP-SRS |
| | | | | |

| Gene | Accession | Protein | Function | Notes |
|-----------|-----------|---------|----------|---|
| PAG1446UP | YHR076w | unknown | 1 | syntenic. Two genes with RP-SRS |
| PAG1447RP | YHR077c | NMD2 | 1 | N-TERM OF GENE |
| | YDR323C | VAC1 | 1 | Required for vacuole segregation and vacuolar protein sorting |
| | YPR061c | | 1 | slm to E.coli DnaJ and other DnaJ-like proteins |
| | | | 1 | YPR062w: len 158aa; protein with slm to members of the cytidine end deoxycytidylate deaminase family. |
| | | | 1 | YPR063c: len 140aa, unknown. YPR064w: unknown, len 139aa questionable ORF; SYNTENIE |
| PAG1447UP | YPR065w | ROX1 | 1 | Heme dependent transcriptional repressor of hypoxic genes including CYC7; N-terminal domain with slm to HMG-box proteins |
| PAG1448RP | YKL025c | | 1 | unknown function |
| PAG1448UP | YIR036C | | 1 | CHR IX: Short-chain alcohol dehydrogenase family signature; YIR036C and YIR035c: slm to human corticosteroid 11-beta-dehydrogenase end short-chain alcohol dehydrogenase family |

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|-----------|----------|---|---|---|--|
| PAG1449RP | YPL041c | 1 | unknown function | 1 | syntenic; YPL040c:ISM1:isoleucyl- tRNA synthetase of mitochondria; YPL042c: SSN3: cyclin dependent Ser/Thr protein kinase of the RNA Pol II holoenzyme |
| PAG1449UP | YPL043w | 1 | nucleolar protein required for ribosome biogenesis | 1 | syntenic |
| PAG1450RP | YMR109w | 1 | protein with sim to myosin heavy chain homolog YKL129 (76% id over 1090 AA) | 1 | syntenic |
| PAG1450UP | YMR108w | 1 | Acetolactate synthase, first step in the valine and isoleucine | 1 | |
| PAG1452RP | YBR269c | 1 | biosynthesis pathway | 1 | syntenic |
| PAG1452UP | YBR268w | 1 | unknown function | 1 | syntenic |
| | MRPL37 | 1 | Mito protein of the large ribosomal subunit | 1 | end of syntenic. Two genes with UP-SRS |
| | YJL062w | 1 | unknown function | 1 | |
| PAG1453RP | MITO-DNA | 1 | | 1 | |
| PAG1453UP | MITO-DNA | 1 | | 1 | |
| PAG1454RP | YBR229c | 1 | protein with sim to alpha 1,4 glucosidase. | 1 | syntenic |
| PAG1454UP | YBR225w | 1 | YBR225w-Ybr229c | 1 | |
| | | 1 | Syntenic. YBR225w, YBR226c both of unknown function. 227c: protein with sim to E.coli ATP- | 1 | syntenic. Two genes with |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|--|----------|-------|
| PAG1455RP | YMR131C | unknown, member of the WD-40 family(?) | | |
| PAG1455UP | YOL155C | protein with hom to <i>S. cerevisiae</i> 1,4 alpha glucosidase | | |
| PAG1456RP | YPR034W | has 28% id to ACT1p over 66 aa | | |
| PAG1456UP | YPR036C | protein involved in Vacuolar H(+)-ATPase assembly or function | | |
| PAG1457RP | YPR072W | protein with sim to Not3p. has 44% id over 148 aa with Not3p, has sim to N-term of CDC36p, has potential coiled-coil domain at the N-term. | | |
| PAG1457UP | YPR074C | Transketolase1 | | |
| PAG1458RP | YPR072W | protein with sim to Not3p. has 44% id over 148 aa with Not3p, has sim to N-term of CDC36p, has potential coiled-coil domain at the N-term. | | |

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|-----------|----------|---|---|--------|---|
| PAG1458UP | YGR099w | protein with sim to mannosyltransferase, has strong sim to Pmt3p; | 1 | SYN100 | YJR087w: len 116: unknown; |
| PAG1459RP | YJR088c | has 6 predicted transmembrane domain unknown function | 1 | SYN100 | YJR087w: len 116: unknown; |
| PAG1459UP | YJR085c | unknown function | 1 | SYN100 | YJR086W: len 107: STE18: Guanine nucleotide binding protein gamma subunit of the pheromone - pathway |
| PAG1460RP | YFL049W | sim to NPL6: Nuclear protein localization factor | 1 | SYN100 | YFL048c: EMP47: Golgi membrane protein with C-terminal KKKXX ER-retrieval motif, len 445aa |
| PAG1460UP | YFL047w | unknown function | 1 | SYN100 | YFL048c: EMP47: Golgi membrane protein with C-terminal KKKXX ER-retrieval motif, len 445aa |
| PAG1461RP | YIL017c | with sim to adenylate cyclase | 1 | SYN100 | YIL017c: adenylate cyclase |
| PAG1461UP | YBR256c | Riboflavin Synthase, last step of riboflavin synthesis, converts 6,7-dimethyl-8-ribitylmurazine to riboflavin | 1 | SYN100 | YBR256c: Riboflavin Synthase, last step of riboflavin synthesis, converts 6,7-dimethyl-8-ribitylmurazine to riboflavin |
| PAG1462RP | MITO-DNA | align | 1 | SYN100 | MITO-DNA: align |
| PAG1462UP | MITO-DNA | align | 1 | SYN100 | MITO-DNA: align |
| PAG1463RP | YDR232w | 5-Aminolevulinete synthase, first step in heme biosynthesis pathway (pyridoxal-5'-phosphate is essential cofactor) | 1 | SYN100 | YDR232w: 5-Aminolevulinete synthase, first step in heme biosynthesis pathway (pyridoxal-5'-phosphate is essential cofactor) |

| | | | | | |
|-----------|---------|-------|---|---|---|
| PAG1463UP | YBR057c | MUM2 | protein with sim to ubiquitin C-terminal hydrolase | 1 | |
| PAG1464RP | YOL119c | | with weak sim to mammalian monocarboxylate transporter proteins | 1 | syntenic; YOL118c: unknown, len 102 YOL117w: unknown, len 645 |
| PAG1464UP | YOL116w | MSN1 | transcriptional activator for genes regulated through SNF1p, multicopy | | |
| PAG1465RP | YFL046w | | suppressor of Invertase defect in snf1 mutants | 2 | syntenic |
| | YFL045c | SEC53 | unknown function | 1 | syntenic |
| PAG1465UP | YLR078c | BOS1 | Phosphomannomutase, involved in the synthesis of GDP-mannose and dolichol-phosphate-mannose | 1 | syntenic; end of syntenic defined; two genes covered by RP-SRS |
| | | | Vesicular transport protein Synaptobrevin (-SNARE) homolog | | |
| PAG1466RP | | | involved in ER to Golgi transport | 1 | |
| PAG1466UP | YMR196w | | unknown function | 4 | complete gene should be on this plasmid |
| PAG1467RP | YIL144w | | protein with sim to myosin heavy chain, possible coiled coil | 1 | syntenic; YIL145c: len 345aa: with sim to E.coli pantoate beta-alanine ligase (pantothenate |

| Gene | Accession | Protein | Function | Notes |
|-----------|-----------|------------------|--|-------------|
| PAG1467UP | YIL146C | unknown function | 1 | synthetase) |
| PAG1468RP | YER133w | GLC7n | protein SER/THR phosphatase PP1 required for glucose repression, probably functions antagonistically to SNF1p | 1 |
| PAG1468UP | YGL200c | EMP24 | component of the COPII coat of certain ER derived vesicles | 1 |
| PAG1469RP | YHR098c | | protein with unknown function | 1 |
| PAG1469UP | YHR097c | | unknown function | 1 |
| PAG1470RP | YOR172w | | protein with sim to transcription factors, has Zn(2)-Cys(6) fungal-type binuclear cluster domain in the N-terminal region | 1 |
| PAG1470UP | YNR043w | ERG19 | Mevelonate kinase, generates mevelonate-5-phosphate from mevelonate, needed for ARS-CEN plasmid stability (regulation of autonomous replication) | 1 |
| PAG1471RP | YHR096c | HXT5 | Highly similar to hexose transporters HXT2 and HXT4 (<i>S. cerevisiae</i>) | 1 |
| PAG1471UP | YHR094C | HXT1 | HEX1:Hexokinase II, converts hexoses to | 1 |

| | | | | |
|-----------|---------|-------|---|---|
| | | | hexose phosphates in glycolysis and plays a regulatory role in glucose repression | other |
| | | | | hits(YJL214W:HXT8;YDR3 45C; YLR081W) had no higher elm. |
| PAG1472RP | YDR016c | | unknown function | 1 weak case of synteny |
| PAG1472UP | YDR014w | | hypothetical protein | 2 weak synteny |
| PAG1473RP | YMR097c | | has ATP/GTP-binding site motif | 1 synteny |
| PAG1473UP | YMR094w | CTF13 | kinetochore protein Cbf3, subunit c | 1 synteny; YMR096w: len 297ee, sim to YFL059p and YNL333p.YMR095c: len 224aa, sim to YML334p |
| PAG1474RP | YOR070c | | unknown | 1 |
| PAG1474UP | YKR081c | | unknown | 1 |
| PAG1475RP | | | | 4 |
| PAG1475UP | YPR190c | RPC82 | RNA-POL III, third largest subunit | 1 |
| | YGR049w | | Similar to Scm4p (SCM4_YEAST), possible Gdc4p-interacting protein. | 1 |
| PAG1476RP | YML091c | RPM2 | Ribonuclease P of MT, generates mature tRNA molecules by cleaving their 5' ends | 1 |
| PAG1476UP | YML126c | HMG5 | 3-hydroxy-3-methylglutaryl coenzyme A synthase, functions in mevalonate synthesis | 1 located near TUB3/YML124c |

| | | | | | | |
|-----------|---------|---|---|---|--|--|
| PAG1477RP | YER093c | unknown function | 1 | 1 | syntenic | |
| | YNL116w | unknown | 1 | | | |
| PAG1477UP | YER091c | Homocysteine methyltransferase, methionine synthase; 5-methyltetrahydropteroyl triglutamate--homocysteinemethyltransferase- | 1 | 1 | syntenic, YER092w; len 125: unknown | |
| PAG1478RP | YER022w | component of RNA-POLII holoenzyme and Komberg's mediator (SRB) | | | | |
| PAG1478UP | YER021w | subcomplex, required for basal transcription | 1 | 1 | syntenic | |
| PAG1479RP | YER091c | Component of 26S proteasome complex | 1 | 1 | syntenic | |
| PAG1479UP | YJR091c | protein that when overexpressed can suppress the hyperstable microtubule phenotype of tub2-150 | 4 | 1 | almost all of the ORF on this plasmid starting from codon 20 | |
| PAG1480RP | YMR167w | Mismatch repair protein end homolog of E.coli MutL Involved in repair of small Insertions | 1 | 1 | syntenic; YMR168c:CBF3b, len 608aa YMR169c:ALD3, len 506aa | |
| PAG1480UP | YMR170c | Aldehyde dehydrogenase | 1 | 1 | syntenic | |
| PAG1482RP | YLR214w | Ferric (and cupric) reductase, acts on ferric iron chelates external to the cell | 1 | 1 | syntenic | |
| PAG1482UP | YLR215c | unknown function | 1 | 1 | syntenic | |
| PAG1483RP | YDL171c | Glutamate synthase, Involved with glutamine synthase in glutamate biosynthesis | 1 | 1 | syntenic | |

| | | | | |
|-----------|---------|--|---|--|
| PAG1483UP | YNR013c | protein with sim to Pho87p and YJL198p, member of the phosphatases family, 12 TMD | 1 | |
| PAG1484RP | YNR006w | protein involved in vacuolar sorting | 1 | |
| PAG1484UP | YPL256c | G1/S-specific cyclin, interacts with CDC28p | | |
| | | protein kinase to control the events at START | 1 | |
| PAG1485RP | | pre-tRNA-leu | 1 | redundant |
| PAG1485UP | YGL170c | with sim to phosphoribulokinase precursor (phosphoenolpyruvate) | 2 | |
| PAG1486RP | YNL161w | SEP/THP protein kinase of unknown function; related protein from N.cresce is required for hyphal elongation, has sim to DBF2, DBF20, YPK1, YPK2, and TPK2, strong sim to cAMP-dependent protein kinases like cot-1 and human myotonic dystrophy kinase MDK | 1 | |
| PAG1486UP | YHR142w | unknown function, has 7 potential TMD | 1 | |
| PAG1487RP | YOR036w | PEP12:Syntaxin(t-SNARE) involved in Golgi to vacuole transport, len 288aa | 1 | disturbed synteny. Two genes covered with RP-SRS |
| | YDR267C | protein with sim to SEC13 and other proteins with WD-40 repeats; has sim to transcription factors | 1 | disturbed synteny |
| PAG1487UP | YOR038c | HIR2:Histone transcription regulator, required | 1 | disturbed synteny |

| Gene | Accession | Protein | Function | Notes |
|-----------|-----------|---------|--|--------------------------|
| PAG1488RP | YIR007W | YIB7 | sim to endoglucanases | 1 |
| PAG1488UP | YOL027C | | unknown, sim to YPR125p | 1 |
| PAG1489RP | YBR001c | NTH2 | alpha,alpha-trehalase, converts alpha,alpha-trehalose to glucose, promoter contains the stress-regulated CCCCT-elements (STRE) | 1 |
| | | | common to stress-induced genes, repressors: glucose | |
| PAG1489UP | YBL003c | HTA2 | Histone H2a | 1 |
| PAG1490RP | YMR167w | MLH1 | mismatch repair protein and homolog of E.coli MUTL | 1 |
| | | | | syntenie |
| | | | | syntenie:YMR170c:ALDS.Y |
| | | | | MR169c:ALD3 |
| | | | | YMR168c:CBF3B |
| PAG1490UP | YMR170c | ALD5 | Aldehyde dehydrogenase | 1 |
| PAG1491RP | | | | 4 |
| PAG1491UP | YNL082w | PMS1 | protein required for mismatch repair, homologous to MutL | 2 |
| | | | unknown function | |
| PAG1492RP | YKR070w | | unknown function | 1 |
| | | | | two genes covered by RP. |
| | | | | SRS |
| | | | | two genes covered by RP. |
| | | | | SRS |
| PAG1492UP | YLR292c | SEC72 | SEC72:Component of ER protein-translocation complex that includes | 1 |

| | | | | | |
|-----------|---------|--------|---|---|--|
| PAG1493RP | YPL243W | SRP68 | SEC61,62,66 and KAR2p | 1 | |
| PAG1493UP | YPL246c | | signal recognition particle subunit | 1 | syntenie |
| | | | unknown function | 1 | syntenie.YPL245w: has A(P-loop), len 454 YPL244c:len 339 |
| PAG1494RP | YOL095c | HRE571 | sim to S. aureus helicase pcrA | 1 | syntenie.YOL094c:RFC4:le n323aa, replication factorC |
| PAG1494UP | YOL093W | | unknown function | 1 | syntenie. End of syntenie |
| PAG1495RP | YJL007 | | unknown function | 1 | syntenie. End of syntenie |
| | YGL227W | | with sim to Dictyostelium non-receptor tyrosine kinase U32174; contains WW(WWP) domain of about 40ea which is also found in dystrophin, Rsp5p, and Ess1p | 1 | |
| PAG1495UP | | | | 4 | |
| PAG1496RP | YER020W | GPA2 | guanine nucleotide binding protein alpha subunit involved in regulation of the cAMP pathway during mating | 1 | |
| PAG1496UP | YJR109c | CPA2 | Carbamoylphosphat synthase, arginine specific | 1 | |
| PAG1497RP | YPL022W | RAD1 | component of the nucleotide excision repairosome, homolog of human XPF xeroderma pigmentosum gene rproduct and the memmailen ERCC-4 protein, required for double-strand-break induced recombination | 1 | |

| | | | | | |
|-----------|----------|------|--|---|--|
| PAG1497UP | YPL016w | ADR6 | SWI1; Component of the SWI/SNF global transcription activator complex, acts to assist gene-specific activators | 1 | end of gene covered by RP-SRS |
| PAG1499RP | YOR021c | | unknown function | 1 | |
| PAG1499UP | YPR133c | | unknown function | 1 | |
| PAG1500RP | YOL094c | RFC4 | replication factor c | 1 | |
| PAG1500UP | | | | 4 | |
| PAG1501RP | MITO-DNA | | elign | | |
| PAG1501UP | MITO-DNA | | elign | | |
| PAG1502RP | YLR056w | ERG3 | ERG3:C-5 sterol desaturase, an iron non-heme oxygen-required enzyme of the ergosterol biosynthesis pathway, ER retention signal member of the TBP class of SPT proteins that alter transcription start site selection, functionally related to SPT3p and TBP | 1 | syntenie; |
| PAG1502UP | YPL055c | SPT8 | | 1 | syntenie |
| PAG1503RP | YNL297c | | unknown | 1 | syntenie |
| PAG1503UP | YNL294c | | unknown, has 6 potential TMD | 1 | YPL296w: q-ORF, len 104, YPL295w: len 524, unknown |
| PAG1504RP | MITO-DNA | | | | |
| PAG1504UP | MITO-DNA | | | | |
| PAG1505RP | YOR007c | | sim to protein phosphatases | 1 | |
| PAG1505UP | YML002W | | unknown function | 1 | syntenie. Two genes |

[illegible]

| Accession | Gene | Protein | Function | Similarity | Notes |
|-----------|---------|---------|---|------------|---------------------------------------|
| PAG1514RP | YNL128w | | sim to YJL207p | 1 | same as PAG1699 |
| PAG1514UP | YHR121w | | unknown function | 1 | same as PAG1699 |
| PAG1515RP | YFR007W | | unknown function | 1 | |
| PAG1515UP | YGR021w | | unknown function | 1 | |
| PAG1516RP | YPL072w | LPF12 | unknown function | 1 | syntene |
| PAG1516UP | YPL074w | YTA6 | strong sim to YTA4p, member of the CDC48/PAS1/SEC18(AAA) family of ATPases | 1 | syntene; there is no YPL073 |
| | | | end probable regulatory subunit of the 26S proteasome complex | | |
| PAG1517RP | YPR190C | RPC82 | RNA-POL III, third largest subunit | 1 | syntene |
| | YPR189W | SKI3 | end of gene on this SRS Antiviral protein with tetra-trico-peptide (TPR) repeats, part of a system to protect cells from dsRNA viruses | 1 | two genes covered by RP. SRS. Syntene |
| PAG1517UP | YPR189W | SKI3 | sequence begins at codon 504 | 1 | syntene |
| PAG1519RP | YBR112c | SSN6 | general repressor of transcription that is brought to target promoters by sequence specific DNA-binding proteins, has tetra-trico-peptide TPR repeats | 1 | |
| | | | unknown function | 1 | |
| PAG1519UP | YPR070W | | with elm to E.coli arsenical pump-driving ATPase, has amino-transferase class-V pyridoxalphosphate attachment site | 1 | |
| PAG1520RP | YDL100c | | unknown function | 1 | |
| PAG1520UP | YMR157c | | unknown function | 1 | |
| PAG1521RP | YDL145c | RET1 | RPC128:RNA-POL III, second largest subunit | 1 | |

| | | | | |
|-----------|---------|---|---|---------------------------------------|
| PAG1521UP | YLR213c | unknown:hes WAP-type 'four-disulfide core' domain signature | 1 | |
| PAG1522RP | | | 4 | |
| PAG1522UP | YPR015c | YPR013c:with sim to mouse REX1 encoded transcription factor, contains C2H2-type zinc finger domain; YPR015c :same type of zinc finger | 1 | |
| PAG1523RP | YML006C | unknown function, hes prenyl group binding site (CAAX)-motif | 1 | |
| PAG1523UP | YDR421W | unknown function, has a(P-loop) | 1 | syntenie |
| PAG1524RP | YPR049C | unknown function, has a probable colled coil | 1 | syntenie. Two genes covered by UP-SRS |
| PAG1524UP | YPR048W | protein with sim to NAPDH-cytochrome P450 reductase, has a MT energy transfer proteins signature | 1 | |
| | YPR047w | also YLR168c:protein possibly involved in Intra-mitochondrial sorting | 1 | syntenie overthree genes |
| PAG1525RP | | | 4 | |
| PAG1525UP | YOR362c | proteasome subunit Y13 | 1 | two genes covered on UP-SRS |
| | YAL047c | unknown function | 1 | two genes covered by UP-SRS |
| PAG1526RP | YJL111w | component of cheperonin-containing T-complex | 1 | |
| PAG1526UP | YNL135c | (FKB1) FK506-binding protein, homolog of humen FKBP12, humen FKBP12 is functional | 1 | |

| | | | | |
|-----------|---------|---|---|---|
| PAG1527RP | YOR172w | 1 | Identical to 1155,1470,1527,1535,1546 .1595 | in yeast, has peptidyl-proly isomerase activity; produces lethal complex with rapamycin with sim to transcription factors |
| PAG1527UP | YNR043w | 1 | Identical to 1155,1470,1527,1535,1546 .1595 | Mevalonate diphosphate-decarboxylase, functions in the polyisoprene biosynthesis pathway |
| PAG1528RP | YLR430w | 1 | one gene on plasmid; covering codons 1356 to 1588 | positive effector of tRNA-splicing endonuclease, required for intron cleavage for all ten precursor tRNA families |
| PAG1528UP | YLR430w | 1 | one gene on plasmid covering codons 132 to 365 | |
| PAG1529RP | YLR187w | 1 | syntenic | unknown function has strong sim to YNL278w |
| PAG1529UP | YLR188w | 1 | syntenic | ATP-binding cassette (ABC)-transporter family member, equivalent to a "half-molecule" ABC protein plus an ATP-binding domain, has sim to mammalian multidrug resistance protein and peptide transporter TAP |
| PAG1530RP | YGR277c | 1 | syntenic, same as PAG1538 | sim to CTR1 (cholesterol permease)=HNM1; has multiple membrane spanning domains |
| PAG1530UP | YGR279C | 1 | syntenic. YGR278w: unknown, same as PAG1538 | unknown function |
| PAG1531RP | YCL057w | 1 | | Proteinase yscD, secretory, homologous to |

| | | | | | | |
|-----------|---------|-------|--|--|---|--|
| PAG1531UP | | | | ret metallo- endopeptidase, contains zinc metallopeptidase motif HEXXH | 4 | |
| PAG1532RP | YIL144w | | | protein with sim to myosin heavy chain, possibly coiled-coil | 1 | syntenie |
| PAG1532UP | YIL145c | | | sim to E.coli PANTOATE-BETA-ALANINE LIGASE | 1 | syntenie |
| PAG1533RP | YJR052w | RAD7 | | nucleotide excision repair protein involved in G2 repair of inactive genes | 1 | |
| PAG1533UP | YPR194c | | | unknown, has sim to S.pombe C-terminal region of Ips4 | 2 | |
| PAG1534RP | YOR165w | | | unknown function | 1 | syntenie |
| PAG1534UP | YOR163w | | | unknown function | 1 | syntenie.YOR164c:unknown function |
| PAG1535RP | YOR172w | | | sim to ts factor | 1 | identical to 1155,1470,1527,1535,1546,1595 |
| PAG1535UP | YNR043w | ERG19 | | | 1 | identical to 1155,1470,1527,1535,1546,1595 |
| PAG1536RP | YJR085c | | | unknown function | 1 | |
| PAG1536UP | YPR040W | | | unknown function, has sim to C.elegans protein | 1 | |
| PAG1537RP | YER164w | | | with sim to mouse chromodomain-helicase- | | |

| Accession | Protein Name | Length | Similarity | Notes |
|-----------|--|--------|------------|---|
| PAG1537UP | DNA-binding protein, contains putative Myb DNA-binding domain | 1 | | |
| PAG1538RP | protein with sim to CTR1:copper transport protein, required for high-affinity uptake of copper (=HNM1) | 4 | | |
| PAG1538UP | unknown, but related to YMR305p | 1 | | YGR278w: unknown, len 577aa, syntenic same as PAG1530 |
| PAG1540RP | single-stranded DNA-dependent ATPase and 5'-3' DNA helicase required for maintenance and repair of MT-DNA, also functions in nucleus to regulate telomere length | 1 | | syntenic same as PAG1530 |
| PAG1540UP | DNA glycosylase, excises 7,8-dihydro-8-oxoguanine and Fapy residues from DNA | 1 | | syntenic |
| PAG1541RP | 2-dehydro-3-deoxyphosphoglycerate aldolase, phenylalanine inhibited | 1 | | |
| PAG1541UP | closest to YDR035w is a copy at YDR058 | 1 | | |
| PAG1542RP | Glucosylase (alpha-1,4-glucan glucosidase), extracellular enzyme | 2 | | weak similarity based on Ser/Thr residues |
| PAG1542UP | protein with sim to MT-carrier family proteins, has prokaryotic | | | |
| PAG1544RP | membrane lipoprotein lipid attachment site | 1 | | |
| | unknown function; Weak similarity to E. coli hypothetical 28.1 kD protein in udp-rfah region | 1 | | |

ol. accession number P27851) and

Lectococcus lactis hypothe- tical protein 2 (plp

3'region) (PIRaccession number B48653)

unknown function

Thioredoxin 1:required for vacuolar inheritance

protein with sim to transcription factors

Mevalonate diphosphate decarboxylase,

functione in polyisoprene biosynthesis

with sim to chitinases, has chitinases family 18

active site signature, has

elm to Aphanociadium album chitinase

Profilin, can act to prevent actin polymerization

end to complex with

monomeric actin; C-terminus is implicated in

actin binding

unknown function, extremely hydrophilic

Cytosine/purine permease

YHR070w

YLR043c

YOR172w

YNR043w

YDR371w

YOR122c

YOR123c

YER056c

PAG1544UP

PAG1545RP

PAG1545UP

PAG1546RP

PAG1546UP

PAG1547RP

PAG1547UP

PAG1548RP

1

4

1

1

1

1

1

1

1

identical to

1155,1470,1527,1535,1546

,1595

identical to

1155,1470,1527,1535,1546

,1595

two genes covered by UP-

SRS. Syntenie

syntenie

syntenie;between 56c and

62c are 56cA(L34, len 121),

57c(unknown len 129), 58w

(PET11, len87aa), 59w (sim

| Accession | Protein Name | Gene Name | Protein Length (aa) | Protein Weight (kDa) | Protein pI | Protein Description | Protein Function | Protein Location | Protein Status | Protein Notes |
|-----------|--------------|-----------|---------------------|----------------------|------------|--|------------------|------------------|----------------|--|
| PAG1548UP | YER062c | HOR2 | 162w | 16.2 | 4.5 | DL-glycerol phosphatase, strong sim to GPP1 | | | 1 | syntenic |
| PAG1549RP | YNL162w | RPL41A | 163c | 16.3 | 4.5 | translation elongation factor EF4 | | | 1 | syntenic |
| PAG1549UP | YNL163c | EF4 | 163c | 16.3 | 4.5 | translation elongation factor EF4 | | | 1 | syntenic |
| PAG1550RP | YLR440C | | | | | unknown function, has carbamoyl-phosphate synthase subdomain | | | 1 | syntenic |
| PAG1550UP | YML060w | OGG1 | | | | signatures | | | 1 | redundant clone? |
| PAG1551RP | YLR095c | | | | | DNA-glycosylase | | | 1 | redundant? |
| PAG1551UP | YDL008w | | | | | unknown function | | | 4 | |
| PAG1552RP | YDL008w | | | | | unknown function | | | 1 | end of syntenic; two genes covered from RP-SRS |
| PAG1552UP | YBR011c | IPP1 | | | | Inorganic pyrophosphatase, cytoplasmic | | | 1 | syntenic |
| PAG1554RP | YGR277c | | | | | Histone H4 | | | 1 | syntenic; YBR010w=HHT1 which is Histone H3 |
| PAG1554UP | YGR279c | | | | | | | | 1 | redundant? Syntenic |
| PAG1555RP | YDL060w | | | | | unknown function | | | 1 | syntenic, redundant? |
| PAG1555UP | YDL081c | RPS29B | | | | YEAST 40S RIBOSOMAL PROTEIN YS29B. | | | 1 | syntenic; redundant? |
| PAG1558RP | YPR070w | | | | | unknown | | | 1 | syntenic |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|--|---|
| PAG1556UP | YBR112c | SSN6 | | 1 redundant? |
| PAG1557RP | | | | 4 |
| PAG1557UP | YCL057w | PRD1 | =NCP1:YHR042w: NADP-cytochrome P450 reductase | 1 |
| PAG1559RP | YBR119w | MUD1 | U1snRNP A protein (snRNA -associated protein with 2 RNA recognition (RRM) domains, helps to fold U1 RNA and maintain it in an active configuration | 1 two genes on RP-SRS; Syntene |
| | YBR120c | CBP6 | translational activator of COB mRNA | 1 syntene |
| PAG1559UP | YPR082c | | Weak similarity to hypothetical E. coli protein (PIR accession number S47687) | 1 |
| PAG1560RP | YDL185w | VMA1 | VMA1Vacular H(+)-ATPase catalytic subunit, 69 kD subunit | |
| | | | of V1 sector, self splicing protein | 1 syntene |
| PAG1560UP | YDL186w | | unknown | 1 syntene |
| PAG1561RP | YDL185w | VMA1 | vacuolar H(+)-ATPase catalytic subunit, self splicing protein | 1 syntene; whole gene |
| | | | unknown function | 1 syntene |
| PAG1561UP | YDL186w | | possible membrane protein | 1 |
| PAG1562RP | YDR100w | | protein with sim to UPF1, a putative helicase | 2 weak homology to the C-terminal 21 aa |
| PAG1562UP | YER178w | | | |
| PAG1563RP | YGL120c | | protein with strong sim to PRP22; related to putative mRNA processing | |

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| Initiation of protein | | synthesis, has an RNA recognition domain | | 1 | syntene |
|-----------------------|----------|--|---|---|--|
| PAG1568up | YOR362c | PRE10 | Proteasome subunit YC1 | 1 | syntene |
| PAG1569RP | YDR238c | SEC26 | coatomer complex beta chain (beta-COP) of secretory pathway | 1 | syntene |
| PAG1569UP | YDR236c | | vesicles, required for transport from ER to Golgi | 1 | syntene |
| PAG1570RP | YKL054c | | unknown | 1 | syntene |
| PAG1570UP | YOL048c | | unknown function, glutamic acid rich | 1 | syntene |
| PAG1571RP | YLR077w | | unknown function | 1 | syntene |
| | | | unknown, has regulator of chromosome condensation signature | | |
| | | | (RCC1) | 1 | syntene |
| PAG1571UP | YLR075w | GRC5 | ribosomal protein of the 60S subunit (ret L10), len 221 | 1 | syntene; YLR076c: unknown, len 140 overlapping ORF's |
| | | | | | anyway |
| PAG1572RP | MITO-DNA | | Phosphatidylinositol kinase (PI kinase) homolog | 1 | hit no 1 (YKL203c: TOR2) |
| PAG1572UP | MITO-DNA | | Involved in cell growth and sensitivity to the immunosuppressant rapamycin, kinase domain | | neglected due to syntene |
| PAG1573RP | YJR066w | TOR1 | is essential for G1 cell cycle functions; depletion causes starvation response but not through RAS/cAMP pathway | | |
| PAG1573UP | YJR065c | ACT4 | actin related protein, essential, len 449 | 1 | syntene |

| | | | | |
|-----------|---------|--|---|-------------------------------------|
| PAG1574RP | YML070w | (=ACT3) unknown function, has sim to dihydroxyacetone kinase | 1 | syntenic |
| PAG1574UP | YML069w | YML069w; has sim to HMG1 proteins | 1 | syntenic |
| PAG1575RP | YOR009w | weak sim based on Ser-residues | 2 | |
| PAG1575UP | YNR044w | weak sim based on Ser-residues | 2 | |
| PAG1576RP | YML125c | protein with sim to NADH-cytochrome b5 reductase | 1 | syntenic, same es PAG1688 |
| PAG1576UP | YML124c | TUB1; YML085c: tubulin alpha-1 chain, required for mitosis end karyogamy TUB3; YML124c: tubulin alpha-3 chain, non-essential, null mutant has poor spore viability; TUB1 and TUB3 each have an intron in CODON 9 | 1 | syntenic, C-term of TUB3 on plasmid |
| PAG1577RP | YJR117w | protein with weak sim to tetracycline resistance proteins | 1 | relaxed syntenic |
| PAG1577UP | YJR106w | unknown function, with aim to e.C.elegans protein | 1 | relaxed syntenic |
| PAG1578RP | YDL220c | protein proposed to regulate generation of single-stranded tails at telomeres; required for passage through G2/M; required in meiosis after DNA replication but before chromosome synapsis or recombination mutants are arrested At the RAD9 checkpoint; | 1 | |
| PAG1578UP | YNL192w | Chitin synthase I, has a repair function during | 1 | |

| | | | | | |
|-----------|----------|------|--|---|--|
| PAG1579RP | YMR160W | | cell separation; major form of chitin synthase | 1 | |
| PAG1579UP | YMR205C | PFK2 | representing 90% of activity, null mutant | 1 | |
| PAG1580RP | YLR368W | | resistant to calcofluor, end with lower melting | 1 | |
| PAG1580UP | YLR370C | | end sporulation efficiency | 1 | |
| | | | unknown function | | |
| | | | see 1566UP | | |
| | | | unknown function | 1 | syntnie |
| | | | unknown function | 1 | syntenie, two genes with UP-SRS |
| | YLR369W | | protein with strong sim to HSP | 1 | syntenie |
| PAG1581RP | MITO-DNA | | | | |
| PAG1581UP | MITO-DNA | | | | |
| PAG1582RP | YLL023C | | unknown function | 1 | syntenie; two genes on RP- SRS |
| | YLL024C | SSA2 | HSP70 family, cytoplasmic | 1 | syntenie |
| PAG1582UP | YLR314C | CDC3 | Septin:Component of 10 nm filaments of mother-bud neck | 1 | N-Term up to codon 240 on the plaemid |
| PAG1583RP | YCL039W | | unknown, probably e member of the beta- transducin (WD-40) | | |
| | | | repeat family | 1 | syntenie |
| PAG1583UP | YCL040W | GLK1 | Glucokinase, specific for aldohexosases, aim to YDR516p | 1 | syntenie |
| PAG1584RP | YKL062W | MSN4 | Zinc-finger transcriptional activator for genes regulated through Snf1p | | |

| | | | | | | |
|-----------|----------|-------|--|---|---|----------|
| | | | | homologous to MSN2 | 1 | |
| PAG1584UP | YMR035w | IMP2 | | inner membrane protease of MT, acts in complex with Imp1p but has a different substrate specificity for removal of signal peptidase | 1 | |
| PAG1585RP | YGL162w | SUT1 | | protein involved in sterol uptake; expressed only in anaerobic conditions | 1 | syntenie |
| PAG1585UP | YGL163c | RAD54 | | DNA-dependent ATPase of the Snf2p family, required for recombination and repair of X-ray damage; required for an early step of mating-type switching; mutant cells die if mating-type switching is attempted, mutants are unable to repair double-strand breaks | 1 | syntenie |
| PAG1586RP | tRNA-Val | | | | 1 | |
| PAG1586UP | YDR420w | HKR1 | | Hansenula mrakii K9 killer toxin-resistance protein | 2 | |
| PAG1587RP | YAL036c | FUN11 | | YAL036c:unknown, has GTP-binding motif | 1 | |
| PAG1587UP | YOR346w | REV1 | | protein required for mutagenesis by physical and chemical agents, has some sim with E.coli mutagenic repair protein umuC | 1 | |
| PAG1589RP | | | | | 4 | |
| PAG1589UP | | | | | 4 | |
| PAG1590RP | | | | | | |
| | | | | MITO-DNA | | |

[illegible]

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| Accession | Gene | Protein | Notes | Count |
|-----------|---------|--|--|-------|
| PAG1602UP | YBR162c | protein with sim to AGA1 | | 1 |
| PAG1603RP | YJL190c | ribosomal protein | | 1 |
| | RPS24A | | | 1 |
| | CRY2 | ribosomal protein | | 1 |
| PAG1603UP | YJL069c | unknown function | | 1 |
| PAG1604RP | YGL123w | ribosomal protein, E.coli S5, rat S2 | | 1 |
| PAG1604UP | YDR172w | =SUP2; omnipotent suppressor with sim to EF1-alpha, protein responsible for the (psi+) | | 1 |
| | SUP35 | phenotype probably through a prion mechanism, required for G1/S-transition; has EF-TU homology domain, C-terminal 2/3 homologous to EF-1alpha, N-terminal domain has tandem oligopeptide repeats and has structural sim to mammalian prion protein | | 1 |
| PAG1605RP | YDR170c | SEC7 | data on length vary, but it should be larger than 1800aa | 1 |
| PAG1605UP | YDR172w | SUP2 | =SUP35; | 1 |
| PAG1606RP | | | | 4 |
| PAG1606UP | YNL254c | unknown function | | 1 |
| PAG1607RP | YBR214w | protein with sim to moc1 protein of S.pombe | | 1 |
| PAG1607UP | | | | 4 |
| PAG1608RP | YNL287w | SEC21 | Coatomer complex gamma chain (gamma- | |

| Accession | Gene Name | Protein Name | Function | Count |
|-----------|-----------|--|--|-------|
| PAG1608UP | YBR025c | unknown, probable purine nucleotide-binding protein | COP)of sacratory pathway vesicles; primary role in retrograde transport, essential | 1 |
| PAG1609RP | YJL041w | TFS1:suppressor of CDC25; has effect on the phosphorylation state of two proteins whose phosphorylation varies with the cell cycle | NSP1 | 1 |
| PAG1609UP | | | | 4 |
| PAG1610RP | YNL267w | PIK1:Phosphatidylinositol4-kinase, generates PtdIns4-P; ovarioproduction causes increased sensitivity to growth arrest by alpha factor | PIK1 | 1 |
| PAG1610UP | YNL268w | Lysine specific permease | LYP1 | 1 |
| PAG1611RP | YMR061w | component of pre-mRNA 3'-end processing factor involved in poly(A)-site choice | RNA14 | 1 |
| PAG1611UP | YKL075c | protein with similarity to HEX2, histidine-rich protein | | 1 |
| PAG1612RP | YJL004c | protein of unknown function, probably membrane protein | | 1 |
| PAG1613UP | YJR019c | unknown function | | 1 |

| Gene | Accession | Function | Notes |
|-----------|-----------|--|---|
| PAG1614RP | YJR020w | unknown function | 1 stop codons make this hypothetical ORF very questionable even in yeast |
| PAG1614UP | YLR368w | unknown function | 1 syntenie |
| | YLR370c | unknown function | 1 syntenie, two genes covered by UP-SRS |
| | YLR369w | strong elm to HSP70 | 1 syntenie |
| PAG1615RP | YJL044c | GTPase-activating protein GAP for YPT6 | 1 same as PAG1191 |
| PAG1615UP | YKL151c | unknown function | 1 same as PAG1191 |
| PAG1616RP | YMR079w | Phosphatidylinositol/phosphatidylcholine transfer-protein, required for transport of secretory proteins from Golgi | 1 |
| PAG1616UP | | | 4 |
| PAG1617RP | YPL235w | unknown function | 1 syntenie |
| PAG1617UP | YPL239w | protein with two enkyrin repeats | 1 divergent promoter, two genes covered by UP-SRS. Syntenie and one end of syntenie |
| | YMR185w | unknown function | 1 divergent promoter; two genes covered by UP-SRS. Syntenie and one end of syntenie |

| | | | | |
|-----------|----------|------|---|---|
| PAG1618RP | | | 4 | |
| PAG1619RP | YOR085w | OST3 | 1 | syntenle |
| | | | | Oligosaccheryltransferase gemme subunit, member of a complex of 6 ER proteins that transfer core oligosaccheride from dolichol carrier to Asn-X-Ser/Thr motif |
| PAG1619UP | YOR86c | | 1 | syntenle |
| PAG1620RP | YKL217w | JEN1 | 1 | CHIMERIC-PLASMID |
| | | | | unknown function |
| | | | | protein with elm to E.coli osmoregulatory prop |
| | | | | proline/betelne transporter and KgtP alphe- |
| | | | | ketoglutarate transporter, member of the meior |
| | | | | faciliator superfamily |
| PAG1620UP | MITO-DNA | | | CHIMERIC-PLASMID |
| PAG1622RP | MITO-DNA | | | |
| PAG1622UP | MITO-DNA | | | |
| PAG1623RP | YDR150w | NUM1 | 1 | syntenle |
| PAG1623UP | YDR152w | | 1 | eyntenle, |
| | | | | YDR151c:CTH1:len 325: |
| | | | | protein of the Inducible |
| | | | | CCCH zinc-finger family |
| PAG1624RP | YIL093c | | 1 | |
| PAG1624UP | YNL023c | | | unknown function |
| | | | | protein with sim to humen DNA binding protein |
| | | | | tenascin and |
| | | | | Drosophila shuttle creft protein |
| PAG1625RP | YLR180w | SAM1 | 1 | high degree of Identity to |
| | | | | S-adenosylmethionine synthetase 1;repressors: |

| Gene | Accession | Protein | Function | Notes |
|-----------|-----------|---------|--|-------|
| PAG1625UP | YLR178c | TFS1 | CDC25-dependent nutrient- and ammonia-response cell-cycle regulator, suppressor of CDC25 mutations | 1 |
| PAG1626RP | YDR505c | GIN5 | high copy-number suppressor of ts mutations in DNA-POL alpha | 1 |
| PAG1626UP | YGR274c | TAF145 | component of the TAF(II) complex (TBP-associated protein complex) required for activated transcription by RNA-POL II | 4 |
| PAG1627RP | YMR298w | | unknown function | 1 |
| PAG1627UP | YCL031c | | unknown function | 1 |
| | YCL030c | HIS4 | Phosphoribosyl-AMP cyclohydrolase...; second, third and tenth step of histidine biosynthesis pathway | 1 |

| | | | | | |
|-----------|----------|-------|---|---|--|
| PAG1628RP | YKR092c | SRP40 | suppressor of mutant AC40 subunit of RNA- POL I and III, overproduction is lethal | 2 | |
| PAG1629RP | YNL257c | SIP3 | Interacts with SNF1, contains PH-domain | 1 | |
| PAG1629UP | YGR255c | | protein with sim to E.coli ubiH protein | 1 | |
| PAG1630RP | YLR424w | | protein with sim to retrovirus-related protease | 2 | |
| PAG1630UP | | | | 4 | |
| PAG1631RP | MITO-DNA | | align | | |
| PAG1631UP | MITO-DNA | | align | | |
| PAG1632RP | YNL068c | FKH2 | Homolog of Drosophila forkhead protein | 1 | |
| PAG1632UP | | | | 4 | |
| PAG1633RP | MITO-DNA | | | | |
| PAG1633UP | MITO-DNA | | | | |
| PAG1634RP | YBL085w | BOI1 | BEM1p-binding protein, has a SH3 domain and a PH domain; involved in bud formation redundant with BOI2p | 1 | |
| PAG1634UP | | | | 4 | |
| PAG1635RP | YDL052c | SLC1 | Fatty acyltransferase | 1 | two genes covered by RP- SRS, same as PAG1664 |
| | YLR377c | FBP1 | Fructose-1,6-bisphosphatase | 1 | two genes covered by RP- SRS, same as PAG1664 |
| PAG1635UP | YDL054c | | putative transmembrane protein | 1 | same as PAG1664 |
| PAG1638RP | YLL055w | | protein with sim to DAL5 and members of the elliptic permease | | |

| Accession | Protein Name | Gene Name | Protein Length | Protein Description | Gene Description | Gene Length | Gene Orientation | Gene Coordinates | Gene Orientation | Gene Coordinates |
|-----------|--------------|-----------|----------------|--|------------------|-------------|------------------|------------------|------------------|------------------|
| PAG1636UP | YKL215c | YER157w | 2 | family of the major facilitator superfamily (MFS) protein with sim to Pseudomonas hydantoinases hyuA-hyuB | unknown function | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1637RP | YER155c | BEM2 | 1 | bud-emergence protein | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1638RP | YCL037c | | 1 | with sim to SLF1, has a motif in common with conserved sequence in LHP1 but does not contain a RNA recognition motif | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1639UP | YCL039w | | 1 | probably a member of the WD-40 family | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1640UP | YKL046c | | 1 | unknown function, has 2 predicted TMDs | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1641UP | YMR020w | FMS1 | 1 | aim to corticosteroid-binding protein | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1642RP | YLR196w | PWP1 | 4 | member of WD-40 repeat family | | 4 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1643RP | YKR023w | | 1 | unknown function | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1644UP | YKR024c | | 1 | unknown function, probable purine nucleotide-binding protein | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |
| PAG1645RP | YMR179w | SPT21 | 1 | protein that amplifies the magnitude of transcriptional regulation at various loci | | 1 | + | 1000000-1000000 | + | 1000000-1000000 |

| Accession | Gene | Protein | Function | Notes |
|-----------|---------|---------|--|---|
| PAG1643UP | YMR181c | | unknown function | 320, unknown synteny |
| PAG1644RP | | | | 1 synteny |
| PAG1645RP | YDR089w | | unknown function ; with laucina zipper pattern | 4 synteny, two genes covered by RP-SRS anding synteny |
| | YER161c | SPT2 | HMG-like chromatin protein that interacts with SNF1p through a conserved domain | 1 synteny, two genes covered by RP-SRS anding synteny |
| PAG1645UP | YDR088c | SLU7 | pre-mRNA splicing factor affecting 3' splice site choice, required only for the second catalytic step | 1 synteny |
| PAG1646RP | YML120c | NDI1 | NADH-ubiquinone oxidoreductase | 1 |
| PAG1646UP | YHR190w | ERG9 | Squalene synthase (farnesyl-diphosphate farnesyltransferase), branch point for isoprenoid biosynthesis | 1 |
| PAG1647RP | YML004c | GLO1 | sim to glyoxalases | 1 |
| PAG1647UP | YNR011c | PRP2 | RNA-dependent ATPase of DEAD box family required for first catalytic event of pre-mRNA splicing | 1 |
| PAG1648RP | | | | 4 |
| PAG1648UP | YNR016c | FAS3 | first and rate limiting step in fatty acid biosynthesis pathway | 1 |

| | | | | | |
|-----------|---------|-------|---|---|--|
| PAG1649RP | YHR206W | SKN7 | 1 | Transcription factor with homology to response regulator proteins of bacterial two-component systems and DNA-binding region of Hsf1p, may be involved in the response to oxidative stress. May act in parallel to PKC1-MAP kinase pathway to regulate growth at the cell surface, but is not in the same pathway as PKC1, null mutant w/o phenotype, high level of overexpression is lethal: Has a potential coiled-coil domain | |
| PAG1649UP | YER183c | | 1 | unknown function | syntentle; two genes covered by UP-SRS |
| | YER182c | | 1 | unknown, but essential | syntentle, two genes covered by UP-SRS |
| PAG1650RP | YOR317W | FAA1 | 1 | long-chain fatty acid CoA ligase (fatty acid activator 1), can incorporate exogenous myristate into myristoyl-CoA and other fatty acids to the CoA derivatives | |
| PAG1650UP | YMR100W | | 1 | unknown function | |
| PAG1651RP | YNL121c | TOM70 | | MT specialized import receptor of the outer membrane, hee | |
| | | | | tetratricopeptide repeats | 1 syntentle |
| PAG1651UP | YNL123W | | 1 | unknown function | syntentle, two genes covered by UP-SRS |

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| | | | | | |
|-----------|----------|-------|---|---|---|
| PAG1657UP | YKR051W | | unknown protein | 1 | |
| PAG1659RP | YBR038W | CHS2 | Chitin Synthase II, responsible for primary septum disk; Mutants resistant to calcofluor white, 8 TMD, mutant is unable to grow on non-fermentable carbon source Membrane location is altered in an rho0 strain | 1 | syntenie |
| PAG1659UP | YBR037C | SCO1 | unknown function; has 12 TMD | 1 | codons 800-1033 |
| PAG1660RP | YBL004W | | unknown function; has 12 TMD | 1 | codons 2167-1951; C-terminus missing |
| PAG1664RP | YDL052C | SLC1 | unknown function, putative transmembrane protein | 1 | syntenie, same as PAG1635 |
| PAG1664UP | YDL054C | | unknown function, putative transmembrane protein | 1 | syntenie; same as PAG1635 |
| PAG1666RP | MITO-DNA | | | | |
| PAG1666UP | MITO-DNA | | | | |
| PAG1667RP | YMR061W | RNA14 | component of pre-mRNA 3' end processing factor involved in poly(A) site choice, interacts with Rna15p, Fip1p, and Pep1p | 1 | same as PAG1611 |
| PAG1667UP | YKL075C | | unknown protein | 1 | same as PAG1611 |
| PAG1669RP | YLR277C | BRR5 | protein required for processing of mRNA 3' end | 1 | syntenie |
| PAG1669UP | YLR281C | | unknown, however there are other overlapping ORF's | 1 | syntenie; YLR278c:protein with sim to transcription |

| | | | | | | |
|-----------|---------|--------|--|---|--|---|
| PAG1670RP | YJL191w | CRY2 | ribosomal protein rp59 (E.coli S11, rat and human S14) | 1 | syntenic; two genes covered by RP-SRS, same as PAG1603 | factors, has Zn(2)- Cys(6) fungal- type binuclear cluster domain in the N-terminal region, len 1341aa |
| | YJL190c | RPS24A | RPS24A:ribosomal protein RPS24 (E.coli S8, mammalian S24) | 1 | syntenic, same as PAG1603 | |
| PAG1670UP | YJL069c | | unknown protein | 1 | same as PAG1603 | |
| PAG1671RP | YBR112c | SSN6 | has 10 TPR repeats (TPR-Tetratricopeptide) | 2 | | |
| PAG1671UP | YML042w | CAT2 | Carnitine-o-acetyltransferase, peroxisomal and mitochondrial, not required for growth on fatty acids,Catalytic activity: undetected in cells grown on glucose, increased on glycerol or acetate, very high on oleate | 1 | codons 442 to 655 promoter and terminator missing; regulatable promoter? | |
| PAG1672RP | | | | 4 | spIP24197YIGID_ECOLI | |
| | | | | | HYPOTHETICAL 28.3 KD | |
| | | | | | PROTEIN IN T...-3 73 | |
| | | | | | 1.2e-10 5 | |
| PAG1672UP | YDL203c | | unknown, has weak sim to SKT5 | 1 | | |
| PAG1673RP | YDL104c | QRI7 | sim to E.coli oriX gene; may be in a cold spot for recombination | 1 | eyntenic | |
| | YDL105w | QRI2 | unknown | 1 | syntenic; two genes | |

| | | | | |
|-----------|---------|---|---|--|
| PAG1673UP | YMR166c | sim to members of the MCF MT carrier protein family | 1 | covered by RP-SRS not in syntania to RP-SRS |
| PAG1674RP | YPL072w | unknown function | 1 | syntanie |
| PAG1674UP | YPL075w | required for expression of glycolytic genes. binds to DNA with high affinity but low specificity, motif CTTCC, contains a leucine zipper that is necessary and sufficient for homodimerization | 1 | syntanie; YPL074w:YTA6:CDC48-ATPase-family |
| PAG1675RP | YMR259C | unknown, has sim to YGR273p | 1 | |
| PAG1675UP | YML100w | ellameta third subunit of the trahalose-6-phosphate synthase complex, probably regulatory | 1 | |
| PAG1676RP | YLR428w | unknown, with WD-40 repeats | 1 | syntanie |
| PAG1676UP | YLR426w | rotein with sim to FOX2p, E.coli 3-oxoacyl-reductase and inact-type | | |
| | | alcohol dehydrogenase/ribitol dehydrogenase family | 1 | syntania, YLR427w:lan 670aa, unknown function |
| PAG1677RP | YNL115w | unknown function | 1 | |
| PAG1677UP | YNR044w | sim relies on Ser-residues | 2 | |
| PAG1678RP | YLR347c | karyopherin-beta, acts to target proteins with nuclear localization signals (NLS) to the nuclear pore complex | 1 | syntania; YLR345w : lan 509: sim to rat fructose-2,6-bisphosphatase; YLR346c :lan 101: unknown |

| Accession | Gene | Protein | Description | Notes |
|-----------|---------|---------|---|--|
| PAG1678UP | YLR344w | RPL33A | | 1 syntenie |
| PAG1680RP | YLR107w | | Similar to S. pombe hypothetical protein C22G7.04p | 1 syntenie; YLR108c: unknown, len485aa; YLR109w: elm to C.boldini; peroxisomal membrane proteins A and B |
| PAG1680UP | YLR110c | | cell wall protein, probably highly O-glycosylated, null mutant fails to flocculate; repeat domains account for 70% of the protein FLO1 homolog | 1 complete gene |
| PAG1681RP | YER172C | BRR2 | RNA-helicase related protein required for pre-mRNA splicing | 1 syntenie |
| PAG1681UP | YER171w | RAD3 | DNA-helicase component of RNA polymerase transcription initiation factor TFIIH(factor b) and the nucleotide excision repairosome | 1 syntenie |
| PAG1682RP | YKL214C | | unknown function | 1 syntenie; two genes covered byRP-SRS |
| | YKL213c | DOA1 | DOA1:Protein Involved in ubiquitin proteolysis, has WD-40 repeats | 1 syntenie |
| PAG1682UP | YKL212w | SAC1 | Protein involved in Golgi function and actin cytoskeletal organization, required for growth only at low temperature; mutants are inositol auxotrophs; Sac1p is not associated with actin cytoskeleton | 1 syntenie |
| PAG1683RP | YDL077c | | unknown protein | 1 start of gene to codon 164, |

| | | | |
|-----------|---------|---|--|
| PAG1683UP | YDL077c | 1 | sama as PAG1133 very end of gene; maybe including terminator, same as PAG1133 |
| PAG1684RP | YLR425W | 1 | syntania |
| PAG1684UP | YLR424W | 1 | syntania; somehow disturbed by overlapping hitno 1 |
| PAG1685RP | YNL330c | 1 | Transcription modifier required for full repression or full activation of many genes including PHO5, STE6, SPO13, HQ, TRK2, and TY2 |
| PAG1686RP | YLR129W | 1 | DOM34p Interacting protein, with WD-40 repeats. |
| PAG1687RP | | 4 | |
| PAG1687UP | YOR240W | 1 | unknown function |
| PAG1688RP | YML125c | 1 | sim to NADH-cytochrome b5 reductase |
| PAG1688UP | YML124c | 1 | TUB3 rather than TUB1 due to syntania |
| PAG1689RP | YKR059W | 1 | Translation initiation factor 4a aIF4A of the DEAD-box family |
| PAG1689UP | YJL140W | 1 | RNA-POLII, fourth largest subunit |
| | YJL139c | 1 | Mannosyltransferase of KRE2/KTR1/YUR1 |

| Accession | Gene | Protein | Family | Overlap | Notes |
|-----------|----------|---------|---|---------|--|
| PAG1690RP | YDL033c | | family | | overlapping genes |
| PAG1690UP | YDL035c | | slm to H. Influenza protein HI0174 | 1 | syntene |
| | | | unknown function; putative transmembrane protein | 1 | syntene; YDL034w: unknown, len 114; |
| PAG1691RP | YHR023w | MYO1 | Myosin heavy chain (myosin II), involved in septation and cell wall organization; null mutant has abnormal nuclear migration and cytokinesis, has delocalized chitin deposition, are defective in cell division, are osmosensitive,, and have an altered budding pattern, mutants show wild-type movement of actin cortical patches. Molecule is a dimer with two heads and a long coiled coil tail | 1 | overlapping with YDL035c |
| PAG1691UP | | | | 4 | N-Term down to codon 198 |
| PAG1692RP | MITO-DNA | | | | |
| PAG1692UP | MITO-DNA | | | | |
| PAG1694RP | YBR280c | | slm to SRM1/PRP20 | 1 | syntene |
| PAG1694UP | YBR281c | | unknown, with WD40 repeats | 1 | syntene |
| PAG1695RP | YPR194C | | unknown function | 1 | |
| PAG1695UP | YFL010c | | unknown function | 1 | |
| PAG1696RP | YCL036w | | unknown function | 1 | syntene. Hit no1: YDR514C:unknown has slm to YCL036w |

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|-----------|---------|--|---|---|--|
| PAG1696UP | YCL035c | sim to thioltransferase | 1 | syntenic | |
| PAG1898RP | YHL002W | has one SH3-domain; Similar to several proteins with SH3 domains | 1 | syntenic | |
| PAG1698UP | YHL004W | MT ribosomal protein of the small subunit | 1 | YHL003c:LAG1:Longevity assurance protein, has sim to YKL008p and mammalian UOG-1 protein; has 7 TMD | |
| PAG1699RP | YNL126W | unknown function , has weak sim to YJL207p | 1 | same as PAG1514 | |
| PAG1699UP | YHR121W | unknown protein | 1 | same as PAG1514 | |
| PAG1700RP | | AG-TEF | 1 | 481 out of 491 bases are identical | |
| PAG1700UP | | | 4 | | |

Table 2:

Ashbya gossypii sequences with (>100 codons) ORF's that show no homology to *S. cerevisiae*

| | | |
|----|------------|--|
| 5 | PAG1002RP | open frame > 450 nt in -2 |
| | PAG1005RP | open frame > 350 nt in -1 |
| | PAG1005UP | open frame 300 nt in -3 |
| | PAG1006RP | open frame > 450 nt in -3 |
| | PAG1006UP | open frame > 350 nt in -1 |
| 10 | PAG1010H | open frame 350 nt in +3 and -2 |
| | PAG1010I2 | open frames whole length in +3 and -3 |
| | PAG1018UP | open frames whole length in +1 and -3 |
| | PAG1019UP | open frame whole length in +1 |
| 15 | PAG1022RP | open frame whole length in -1 |
| | PAG1022UP | open frame > 350 in +1 |
| | PAG1024UP | open frames whole length in +3 and -2 |
| | PAG1033UP | open frame s whole length in -2 |
| | PAG1035H | open frame 300 nt in -3 |
| 20 | PAG1035I2 | open frame > 350 nt in -1 |
| | PAG1035RP | open frames > 350 nt in -1 |
| | PAG1036RP | open frames 350 nt in -3, 300 nt in +2 |
| | PAG1038RP | open frame whole length in -3 |
| 25 | PAG1042RP | open frame > 300 nt in -2 |
| | PAG1042UP | open frame 300 nt in +1 |
| | PAG1046UP | open frame 350 nt in +1 |
| | PAG1053RP | open frame whole length in -1 |
| | PAG1054RP | open frame whole length in -2, 350 nt in +1 |
| 30 | PAG1054UP | open frames 350 nt in +3, +2, and -2 |
| | PAG1055UP | open frames 350nt in +3 and -2 |
| | PAG1057UP | open frame 400 nt in +3 |
| | PAG1062UP | open frame 300 nt in -1, many stops in other frames |
| 35 | PAG1071CRP | open frame> 350 nt in +2 and -3, possible chimeric plasmid, hybridizes to A.g. chr. II and III |
| | PAG1071CUP | open frame whole length in -3, possible chimeric plasmid, hybridizes to A.g. chr. II and III |
| | PAG1081RP | open frame whole length in +3 |
| | PAG1083RP | open frame whole length in -2, many stops in other frames |
| | PAG1214RP | open frame whole length in -2 |
| 40 | PAG1216RP | open frame >300 nt in +2 |
| | PAG1220RP | open frame 350 nt in +2 (S-rich) |
| | PAG1223UP | open frame whole length in -2, open frames > 350 nt in +2 and -3 |
| | PAG1224UP | open frame > 300 nt in -1 |
| 45 | PAG1225UP | open frames > 500 nt in +2 (S-rich) and >450 nt in -1 |
| | PAG1226RP | open frame whole length in +2 |
| | PAG1231RP | open frame > 350 nt in -1 |
| | PAG1231UP | open frames > 400 nt in +1 |
| | PAG1233RP | open frames whole length in +2 and nearly whole length in -3 |
| 50 | PAG1245UP | open frames > 400 nt in -2 and > 300 nt in +1 |
| | PAG1247RP | open frames whole length in -3,open frames > 400 in +3 and +2 |
| | PAG1251RP | open frames > 450 nt in +1 and > 400 nt in -3 |
| | PAG1253RP | open frame > 500 nt in +2 |
| 55 | PAG1263UP | open frame > 400 nt in -1 |
| | PAG1265RP | open frame 450 nt in -1 |
| | PAG1266UP | open frame > 400 nt in |
| | PAG1267UP | open frame nearly whole length in +1 |

Table 2 (continued)

| <i>Ashbya gossypii</i> sequences with (>100 codons) ORF's that show no homology to <i>S. cerevisiae</i> | |
|---|--|
| 5 | PAG1272UP open frame whole length in +3 |
| | PAG1275RP open frame whole length in -3 |
| | PAG1277UP open frame > 500 nt in -1 |
| | PAG1280RP open frame whole length in -2, two separated short blocks with high homology -> funct. domain? |
| | PAG1286RP open frame > 400 nt in -3, |
| 10 | PAG1286UP open frames > 500 nt in +1 and -3 |
| | PAG1293UP open frames 300 nt in +2 and > 400 nt in +1 |
| | PAG1294RP open frame > 300 nt in +3 |
| | PAG1299RP open frame > 350 nt in -1 |
| | PAG1300RP open frames > 350 nt in +1 and -2 |
| 15 | PAG1303RP open frame > 350 nt in +2 or ending frame > 250 nt in -1 |
| | PAG1303UP open frame whole length in -2 |
| | PAG1305RP open frame whole length in -2 |
| | PAG1306UP open frame whole length in +2 |
| 20 | PAG1311UP open frame 500 nt in -2 |
| | PAG1312UP open frame whole length in +1 |
| | PAG1314RP open frame > 350 nt in -3 |
| | PAG1318RP open frames > 300 nt in -2 |
| | PAG1318UP open frames > 450 nt in -3 and > 600 nt in +2 |
| 25 | PAG1331UP open frames > 400 nt in +2> 350 nt in +3 and > 350 nt in +3 |
| | PAG1332RP open frame nearly whole length in +1 |
| | PAG1334RP open frame whole length in -2 and +2 |
| | PAG1335RP open frames whole length in -2 and 300 nt in +3 |
| | PAG1356RP open frame whole length in -3 |
| 30 | PAG1357RP open frame whole length in -2 |
| | PAG1362UP open frames > 350 nt in +3 and > 300 nt in -3 |
| | PAG1363UP open frame whole length in +2 |
| | PAG1365RP open frame whole length in +3 |
| 35 | PAG1366RP open frame whole length in +2 |
| | PAG1387UP open frames > 450 nt in -3, >350 nt in +1 and +2 |

40

45

50

55

1001RP

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|----|-------------|-------------|-------------|-------------|------------|------------|-----|
| | GTGATTTCGTC | CGAGATTGAA | AAGTCCCTAA | CAATCAAAAA | CAACGGGAAG | GCGTACGAGG | 60 |
| | AATGGCTGGA | CCTGGGTAAAT | GGGTGCCCTAT | GTTGCAGTCT | GAAGGACGTA | GGGGTGAAGG | 120 |
| 5 | CCATCGAGGC | GATGGTTTCG | CGGTCCGCCAG | GTAAAAATCGA | CTACATCATA | CTTGAGACAA | 180 |
| | GCGGGATAGC | GGACCCAGTG | CCGATCGTGA | AGATGTTCTG | GCAGGATGAG | GGTCTCAATA | 240 |
| | GCTGCATCTA | CATTGATGGG | ATTGTGACGG | TGCTGGACGC | AGAGCATGTG | ATGACATTGC | 300 |
| | TCGACGAGGT | GGCCCTCCCG | CGCCAATTGC | GCGGCGACCA | GGTGCTGATG | GAAAACCAGA | 360 |
| | TCACCCNNGG | GNATCTTCAG | GTTGCCATGG | GGGNGCGGGG | GNGTTGATTA | AATCNACCCC | 420 |
| 10 | TGNAGGCTGN | NTAAAAATCT | TGGNNGGGAA | AANGGTGANT | ATAAGCGGCC | TTTTTCGGCN | 480 |
| | AATNCGGGAN | TTTNGNTANN | AAAAGNTNT | | | | |

1001UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 15 | TGATCCGACC | AAGAGCAGGG | CTTTGGTGCG | GTGAATCTCG | AACTCCTGCC | CCTGTGTCAG | 60 |
| | CTCACCCCGG | CCGAAGTCCT | TCCAAAGAAG | AGCTTGTAAG | AAGTGTTCCT | CGAACCCTC | 120 |
| | GAGCTCAGCC | TTGTCCGCCA | GCGGCCGCCA | GGTCAAGGTG | ACCGTGGACA | GCCGCGGATC | 180 |
| | ATGGTAAGCC | ACGTGGGCAT | CGGGAATGTC | AGAGGCACCA | AAAGCATGGA | GATTCAAGTA | 240 |
| | CCTTGTPTAT | CTCCAGATCG | CCGAACCTGG | TCCCAGATAG | TGGGCGCGAC | TGCATTAATG | 300 |
| | CTACGCACCT | TTTCCTCCAA | CCACAGCGAT | TGTCATCAA | NGCCTCCAG | CCNGTCGGAT | 360 |
| 20 | TTATCAAAAC | AACCCNNGTCC | GCCATGGCNA | GTTGNAGATG | GCANGGCACT | TTNTTTCAC | 420 |
| | AGACTGCGNG | CCGGCAATGG | GGGGGGCACC | CGCGACATTA | NAATTNTGTC | AGACCNAAAC | 480 |
| | CNCAATTGNN | | | | | | |

1002I2

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| 25 | GATCTTCGAG | TGGGCGAGGG | ATAGTAGCGA | CCGTGGCAGA | CATTCACTCT | GATCAATTGA | 60 |
| | AGCGCCTGCT | CCATGTCCCT | GATGAACCTG | GGAAATAAAT | GCCTATAGAG | TTGGTGATCA | 120 |
| | AGGGTAACGA | CTTCTCTCGA | TTGCCATATCA | AAAGACTGAA | AAGGTACGTT | CGGCAGCACA | 180 |
| | CAAAACACCG | AGTTCGGCTG | GTGGACTGTT | CGCGTGACT | ACGCAGTACA | CATATACCTA | 240 |
| | AGATAAAGAG | GTTCAATGAAT | AAGTGCTTAG | CCACTATATT | CAATTCACTT | GGAGGAAATA | 300 |
| 30 | ATACTACTAG | ACGTGGATTG | TTGGTGCCAC | TGGGTTCCAA | TCGATAGCTA | CTTCAAACTT | 360 |
| | CCCGGCTACA | CTAAAAACGG | GCGCTCTTGT | CCTTCAAGGA | TAGAACGCTT | CCGGAGTACC | 420 |
| | TCCCTGTPTC | ATGCACAAAA | GCGAACTACT | CTTGGCACCA | CCGCCGGAGG | AGACAAACTT | 480 |
| | TGGGGCAATC | CTTTGAGATT | TCGACACCAN | TGNAAGGNT | N | | |

1002I1

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| 35 | GATCTCCGCA | AATTCTCCCA | AAATGGTAAG | TCGTTATCCA | CCTTAAATGC | TTGCTCGGGT | 60 |
| | AGCTTGTTC | CCAATAAATA | ACGTGACCCA | TCATTGAGAT | CCAATACCTG | GGGGAGCAGT | 120 |
| | TCGCTCCAAT | CGCGTACTTT | CTTTAAAAAC | GGAAATAGTT | CATGATGGAG | AGAGTACAAG | 180 |
| 40 | TTTATGTCCT | CACCAAAAAC | CTCACGAAGA | CCTATATCTC | CTTGCAATGAA | ACAAGTGTCG | 240 |
| | AACACTCGTA | GTGCTTCCAG | CATGGCAGCT | GTCACCGAGG | CATCCTTCAT | GCGACCACGC | 300 |
| | GACCTTTTCA | TAATTTCTGT | CAGCCATTGT | TGTCTCTTTT | TCTTTTCGCA | AGTACCACTG | 360 |
| | GCATTCTTTT | CCAGGGGGCA | TCTCCCGAAC | TGGGTGTGGT | AACAGAAATG | ACTGTNTGGG | 420 |
| | GNGGGGTTTG | GTGTTGGACG | ACNTTTNGTG | AAGATGGGGC | ACAGTTNTGC | CGTTTTTGAG | 480 |
| 45 | GNCAGGCAGA | TNTGAAACAA | ATTNNCGNNA | ANITCGNTTT | CCCNACGCAC | GGGGCCCGAN | 540 |
| | TTCAGGCAAC | CTNGACATTN | TCGAAGTACC | N | | | |

1002RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTACTAA | GGAATTATGG | GAATCGTGTC | TTTTCTTCTT | AGAAATGAAT | TTGTTTGCAG | 60 |
| | TCGAAGACGA | GGTGGAGAC | GAGCGCGACT | GTTTACTCTT | GGGGAAGTTA | GTCAAACAAT | 120 |
| 5 | CGCTAGATTG | TATCCGCATG | GTATCACCTG | AGTTTCTATC | TATAGGAATG | CTACTATYAC | 180 |
| | GGAAAGTTGCG | ATGCTGATGG | GCATGGTTGT | CATGAAAAAT | AGGATGTTGG | CTCCGGTTAG | 240 |
| | ATGACTGMCC | GAATACCTCT | TCTATGATTA | ATTCCTWCAA | GCGGGTATTG | ATTAATGTCTG | 300 |
| | ATCCTGTGGC | GTATGATGAA | ATGACTGCCG | CGTCATTGCC | GGTACGCCCT | TGGAGTGTTC | 360 |
| | GGANTTGACA | AGAANNCGCT | CTTAGGTGCC | NGGATTCCCN | GGGTTGGAAA | GATGATNGCG | 420 |
| | AATNCCAATT | TNGGTCCAAT | AGGGAATCTG | GNATTATTTG | TTATTGCAAT | NAGGATNCCC | 480 |
| 10 | GGGAGGGGGT | TNCNCTACGA | AGAAGGATTA | GGTTTNNC | | | |

1002UP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCACGKG | AGTCGCAGCG | CCAAAGGCCG | CTGGGCGTCA | CGATGCAGGT | TATGCTGTCTG | 60 |
| 15 | CGTCGACAGA | GTGCGCCCCG | CTGGATGAAG | CCCATAAGAC | TATTGAGCCA | CTATATAATA | 120 |
| | CCAGCTGGTT | ACMTGATACT | ATATGGTCAT | AGCATCAATT | GTAGTAGCCA | GGGCAGTGAG | 180 |
| | GCTATAGCAG | CTGGAAAGGC | GACTCTGAAA | AGGGATTTAT | GCCAAGAGCT | TCAGAAGTGG | 240 |
| | ACTCAGGCCA | CGCATCCAAC | GGATTCTTCC | TCAATTCCCTC | TATATTGAGC | CAGAGCTCCA | 300 |
| | TCTTGACCGA | GGTCCCTCAT | TCATATTCAT | ACGAGTTACT | TGAACATCCA | ACAGGTGCCA | 360 |
| | TATTTAGKTT | GGGGGGGTAA | GTACAATANC | GNTGNNGGCC | GTGGAACCCC | GGTCCGTTCC | 420 |
| 20 | CNGGGTTTTG | GAATTTTTNG | G | | | | |

1003RP

| | | | | | | | |
|----|------------|------------|-------------|-------------|------------|-------------|-----|
| 25 | GATCGCTCAT | GACCAAAACA | ACGAAATCCA | CTACATTTCTG | CTTGCCACTG | CTCACCACAGC | 60 |
| | GAAGTTTGGC | GACGCTGTGA | ACGAAGCTCT | CTCCTCTTAC | GATGACTACA | ACTTCGATGA | 120 |
| | CGTTCTTCCA | GACCGTCTAA | GACGTCTAGG | TGACCTTGAG | AAGAGAATTA | AGTACGTGGA | 180 |
| | CAACACCGAC | GTTGATGTTA | TCAAATCTAT | CATTGAGGAG | GAACGTATTA | ACATGGGCAT | 240 |
| | TTACAATCCA | TAGATGATCT | GAACCTCTAGA | TGATTTATAG | ACTATCTAGT | TAGCCTTCTA | 300 |
| | GTCCTATATA | CCTAATTCCA | ATAGGCAGGG | GGGCCTATGT | CAAGTTTAAA | TCCATTTTGC | 360 |
| 30 | CTTCTACTGC | CGCAACGTGG | TTTTTTGCAA | AGCCAATTTT | GCCGTCGGGG | CCAACCTCAC | 420 |
| | CTCANTACCC | AGNTCTGNGA | GTCATCANCA | TTCCCCGCTN | TAGGCCCCAG | TGANTAGAAG | 480 |
| | TGGTCTAGGT | CGTTTCAAGA | GGAACATNAA | TNT | | | |

1003UP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|------------|-----|
| 35 | GATCTTTAGA | CAATTATGAC | ATCCAAGTTT | GGTCCGTTCA | GACTGGTCAG | TTGCTTGACA | 60 |
| | CACCTCTCTGG | TCACGAAGGC | CCAGTCTCTT | GCTTGTCCTT | CAGCCGGGAA | AATAGCATAC | 120 |
| | TAGCCTCTGC | CTCTTGGGAC | AAAACTATAA | GAGTGTGGCC | GATATTTGGG | CGGCCCCAGC | 180 |
| | AAGTCGAGCC | TATAGAAGCA | TACTCTGATG | TGCTGGATAT | TTCCATGAGA | CCTGATGGTA | 240 |
| 40 | AGCAGGTCCG | TGTCTCCACG | CTGAATGGTC | AGCTGTCAAT | CTTCGACGTT | TGAAACCTCA | 300 |
| | CGGCAGGTTG | GCAACAATTG | CTTGCAAGAG | GGACATCATA | TCAGGACGCC | ATTTAGAGGA | 360 |
| | CCGGTTTACT | CAAAGAACTT | CGGCAACGGC | CCAAATATTC | ACAACAATCC | ACTACAGTTC | 420 |
| | GGCGGCTTTC | AATGNTGGAG | NTGGGANAAA | ATCTNNTGGT | NTAGAAATCCN | ATAAGGGTAT | 480 |
| | AANCGTCATG | TTCCANAAAT | NATC | | | | |

1004RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTAAAG | AGGCTCAGTA | TGCAGAGGCA | GTTTCCAGAA | GAAGACAGGC | TGGGCTTCGA | 60 |
| | AATCCCTCAG | CTCCCGCCGT | GGAAGAGTCC | GCAGATGAAG | CAACACACAC | AACAGGGCCA | 120 |
| 5 | GCAAAACGCCG | CTGCGGCGGC | CGCGCTGCAT | CCTCGGTGCC | CCTTATGAAC | CGAGCAGGGC | 180 |
| | GTCGTCCACT | GGTGCAAGCC | AAAAGCGCA | CTACGACTAC | TCCGTGTTCA | ATGAGAGCAG | 240 |
| | GCTCCTCACT | GAGAGCAAGA | TAGACCAGTA | CTTGAAGAGC | GAGGCCGCAA | CGCACAAACG | 300 |
| | CGTATTCCAC | CCGCGACCCG | CCCCACGACG | ACAGCTACCC | GCCCCGACTT | TGCAGCCCGC | 360 |
| | TCTGCTTTCG | ACAAGCTTCG | GACGANGAGG | GAGAGCCCCN | CCCCCCTCNC | AGAGNGCGCN | 420 |
| 10 | TTNGNGACCC | CCCNCTGGNTG | TTCATCATCC | CCCCANTCCT | CCAGGAGAGT | TTTNGAAAGG | 480 |
| | GCGCCCCNA | NACNCCNTAG | GATTGCTGGA | GGATGGAGTN | GGGCCCTTTT | | |

1004UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCACCGAG | CCTAATGAGT | GGTGCTAGGG | TAGCGGTTAT | TACCGGTACT | AATAGGTATG | 60 |
| | TTAATATGCC | ATCAGTGTCT | GAGCTCACGA | CTGACATATA | TTAGCAATCT | TGGCCTGAAT | 120 |
| | ATCGCATACA | GGTTGATTGA | GCAGTTTACT | GATGACAGCA | AGTTGGTTAT | CGTGGTAACA | 180 |
| | TCGCGTACGC | TGCCAAGAGT | AAGGGAGGTG | GTAGACCTAA | TCAAAACATA | CGCCGAGAAA | 240 |
| | TGTGGYAAAT | CTGGAGCAGT | AGATTTCGAC | TACCTGCTGG | TGGATTTCAC | CGACATGGTT | 300 |
| | AGTGTGCTGG | GCGCGGCATA | CGAATTAGAA | AAACGATATG | ACGCTATACA | TTACTTCTAC | 360 |
| 20 | GCTAACGCTG | GCAGGGTGTG | TATTCCCCGA | ATTGATTGGT | TGGGTGCACC | NGGTGTTTAC | 420 |
| | GGGATCCNCG | GGTGTGTGAT | ATCCNCGTTA | GNCNGGGTGG | ANNAATCAGG | ATGGTNGGTT | 480 |
| | AGTTTCAAGC | ANTC | | | | | |

1005RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| 25 | GATCTCCCCC | AGGAACCGCG | ACGGGTACGC | AGTCGTCGTT | CTTCCCAGCG | TGGTCGTCAC | 60 |
| | GAATTCCATC | AGCATGTGGA | ACTTCAGCGC | GAACATCTCC | TCACGCAGGA | TCCGCGTCTT | 120 |
| | CCTCCTCCTC | TGCGGCCACC | GAGAGCTCCG | CCAGCTGCTG | GCACCCGGTC | AGGAAGCACT | 180 |
| | CCCGCGCGTT | CCCCTCgagc | cccacCTCCC | TGAAGCAGCC | CACCAGGAGC | CGCCACACCA | 240 |
| | TATCATCCCC | GAGCCCTTCG | TTGAGGTTGA | AGTTGTCTGC | CCTAATGCAC | CGCACAAAGCA | 300 |
| 30 | CCTTCGGGAT | ATCCCaACCC | AAATCTCCCA | CGAGTGCagG | GTGCTCCCGG | AGCTGCTCCC | 360 |
| | AcAGCGCCTC | CAGGAAGCTC | GCCAgCCGCC | CCGCGTTACC | GcTCGCAAGC | GCCTGCTcCG | 420 |
| | CGCACAACTC | GATCCCCGCT | GCGAgCGAgA | TcTCGTcCCC | GCCTGcTCCG | CGAATAGCaC | 480 |
| | GCCCCaGACTC | TCaCCTTCCG | TATTGCGTGG | cGTTTCATAg | AATcAcTCT | | |

1005UP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|------------|-----|
| 35 | GATCTTGCAAG | TTAACGGTTC | TTCCATCAAG | GGACAAATGG | GCGTACCGAA | GCTCTTAGCC | 60 |
| | CAGCCAAGTA | TCCCACAGCT | GCACAATGCT | AAGGGTGAGG | TAATTGATGT | TCAGTCCCAG | 120 |
| | CCCCCGCGCG | GCTGGCGGCA | GGTGCTACTA | NAGCATGGCC | CAGAAGTATT | TGCGAAGAAG | 180 |
| 40 | GTGCGTgAAT | TCGATGGAAC | ATTGCTTACA | GACACTACAT | GGAGAGATGC | CCATCAATCA | 240 |
| | TTGTTGGCAA | CTAGGGTGCG | TACTTATGAC | CTAGCTGCTA | TTGCACCTAC | CACTGCACAT | 300 |
| | GCaTTAGCAG | GAgCCTTTTC | aTTAGAgTGT | TGGGGTGCGG | CTACGTTTGA | CGTTGCCATG | 360 |
| | CGGTTTTTTC | ACgAAGACcC | aTGGGAgCGC | TTGAgGACAC | TGCGGAAATF | GGTGCCAAAC | 420 |
| | ATCCCATTC | AGATGTTGCT | TCgTGGTGCC | aACgGTGTTG | CTTACTCCTC | TCTGCCTGAT | 480 |
| 45 | AATGCGAATG | ACATTCTgTca | AACAAGCAAA | GGAgAATGGT | GTC | | |

1006RP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|------------|-----|
| | NNNNNGNNNNN | NNNNNTGTGGG | GCGTGGTAGA | NTAGTGGGTC | TCGTAGACAa | TGGATGCCTG | 60 |
| | TAAGCATgTG | TAACGGGTAT | CGTGGAGGGG | TCCCTTCCCG | CCTCCGAAGC | CTTCTTCGGT | 120 |
| 5 | TTCTCAATTT | CCCATAGcAA | TGGCGACTCG | CACCAGTAAA | TCCTCCTCTG | GGTAGGCTCC | 180 |
| | GCTCATTAGT | CGAACGGTTC | TCCGTAGCCC | ATCCTCGTCC | AGTTGCGGCG | CCGCGAAAAC | 240 |
| | AAACAAACAC | TGGCCGCCCG | GATAACGTCA | GTAGcTATGT | TTCAGcAGAT | TCCGCGGAAA | 300 |
| | CCGTCCAACA | GATCGTCTGT | AACCGGTGcA | GATACGTCTG | GGcAGcGGGT | TTTAACTGCA | 360 |
| | GCCAGTGcAG | ATTTAAACGTG | CGATGGAAGC | CTGCGCGCGG | TTCTGGcTGC | CCGCCGGTGG | 420 |
| | CTCCAGCGGA | GCGAGCGCGC | GCGTCCCGAT | GCGCGGcGTa | AGTCTGTgAT | CGcCGGGAGC | 480 |
| 10 | TGAgTAGcGC | TAGCGAAGGT | CAcACGGACG | CCGGATAGTA | GaTGGAGcAA | GGGGCCTCTT | 540 |
| | TGGACGGTTT | GGTTACGAAA | TNCCGGG | | | | |

1006UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| 15 | GATCTCTGTT | CTTTTTTTTAC | CTCTGAAGGT | GCCGAATGTG | TGCGCGTGAA | ACCACTCTTT | 60 |
| | CGCGATGGGA | TGTTTTCTGA | TCTCCCTCGC | GAGCTGTTTC | ATGTATTACT | TCCTTGTAAG | 120 |
| | GCAATCGCCA | CGCAGGACAG | ACCGAGCTGG | TGCCAACGGT | TTCTCCGGCG | TGCCTTTGCT | 180 |
| | GAGATGCGTT | CGCATGTTTT | GACCCAGCT | CTGGAATATG | CGCGCGGTGC | GATGCTGCGT | 240 |
| | GTGGTACGAT | GCAACGTCAG | CGATCCCGCA | GGGCGGgGGT | GCAGgGGTGT | ACTTCGATCG | 300 |
| | TAGGCCGCTG | TAAATGCTCC | TCTGGGACGC | CGTCCCGCC | GATCTTACTG | TCCGCCATGA | 360 |
| 20 | ACGATGGGAC | AgAgTAGcCG | GGATGGTTCC | CTTTGcAGAT | AGGAAATCTG | GAAGAATTTG | 420 |
| | GTCCCgCtCC | gCCTGATTTG | TtTATACAAA | AAATTGGCCA | TACATTCTTT | G | |

1007RP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|-----|
| 25 | GATCTTCTCG | CCGAAGTACT | GCACCATGTC | ATTTCTCTCC | GGTTCACCAT | GAACAAGGAC | 60 |
| | ATCTAGGCCG | ACCTCCTCCT | GGAAGCGGAT | GACTTCCTCA | ATCTGAGAAT | TGATGAAGTT | 120 |
| | GGTGTACTCC | TCCGTGGAAG | TGCCCCCTT | TGCATGCTTG | TTTCTGTTGA | TCCGAATGTC | 180 |
| | CTTAGTCTGT | GGGAAGGAAC | CGATGGTGGT | GGTTGGGAAT | AGCGGGAGCT | TGAAAATTTG | 240 |
| | CTGCTGCTCC | TTGAGACGCT | CCCCGAATGG | TGCGGCTCTC | GTGGATAGCT | TCTCGTTCAA | 300 |
| 30 | ACCAGCAACA | CGTTCTCTGA | CAGAAGGATC | GTTGGGTGAT | CGCAGAGGCG | GGACGCGCAG | 360 |
| | CAATCGAGTC | TGCATTTGGC | TCCAACCTCAG | AGGAAAAGTC | TTCCGCCAGAG | CGTCCCTAGC | 420 |
| | GAGGAAACAA | ACTCATGCAG | TTCTTGGTTG | AAAAGAGAAC | CAGCCTGGCT | TNTTGTCCAA | 480 |
| | GGAGATCGTT | TCCAAGTAAC | TGGNNTTGAA | NAAGGAGC | | | |

1007UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCTTGTCG | AGCTCGCCAT | GACAGATGAG | AATCCGACAG | CACGTTTCAC | GGCATTTTAT | 60 |
| | GCGCTGGGGC | TAATTAGTAA | AACGGAGGAA | GGCTGTGAAC | TATTGGACGA | GTTGGGCTGG | 120 |
| | GACTGTTGCA | TCGATGTTTC | TCGCCAGCCA | GTTGGTATTT | GGGTACCAAA | TAACATCACC | 180 |
| 40 | ACCTTTCTCA | GTTATCTCTA | AGAGAGCGTC | GAGAAAACAA | CCGTTTCGGA | AGGTATCGAC | 240 |
| | CAATTTGGAC | CACGGAATTT | CGGGAGGAGG | GACTTCCCCC | CACTGGAGGG | TATCACAAAT | 300 |
| | ACAAGTTGAT | ACAATACTCT | GAAAAGGTAG | GAAAAGGATG | TCCTGACAGA | CAACCAAGAG | 360 |
| | CTTAAATCCA | TCCTCGCACA | CAGGGGTAGA | CAAGTGANTG | NAAGCGGNGA | TTGATCTTCC | 420 |
| | CATGGAGNTC | CAGGATGACC | AGCTCCCCAA | GATTTCOGTT | CGTGGGAANC | GGAATCATTT | 480 |
| 45 | NTACACAGNG | GA | | | | | |

1008I2

| | | | | | | | |
|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | TCGAGACCGC | ATCAAAATATC | TGTCATTATG | TAAATGTGCA | TATTATAGAC | TTCTATTTC | 60 |
| | AGTACCAGGC | AATTGTGTCC | GATAAATGAG | GTGCAATGAG | CACCCGTCA | CACCGGACGC | 120 |
| 5 | GATAAATTTT | TTTTTGGGGG | TCAACCATT | AATCTACGTG | CATCTAACGC | AAGGAGCAAT | 180 |
| | TTAGCTAACA | ACTCTTCTTA | TCTTAAGAAT | CGGGTATACC | TCCTCTTCGC | ACATCTTCGC | 240 |
| | CTTCTTTAGT | CTCGAGTCTT | AACTACGTTT | AACAATGTCA | GCCTCCGATA | AGATGTACAT | 300 |
| | GTCGTATAAC | AACATACACA | AACTGTGTCA | GCAGGTAGCT | GGCCAAATTA | TGGAGCGTGG | 360 |
| | TGACAGACCG | GACGTGATTA | TCGCCATTAC | CGGCGGCGGC | ATGATTCCCTG | CAAGAATCAT | 420 |
| | CCGGTCTGTT | CTCAAGGTCA | AGGGCCAGAA | AAACATCCCC | ATCCAGGCGA | TTGGGTCTTT | 480 |
| 10 | CTTTGGTACG | AGGACTTGGG | TTTGGAAAGAC | GGGACGGAAA | GCATCGGCAA | GGAAGTTATC | 540 |
| | CGGATCAAGT | GGCTAGACTT | TGGGGGCCCT | GGGCAAACAC | TTTGGACTCA | ACTGATTGGA | 600 |
| | AGAAGGTCTT | GGATTGGCGC | CGAGTTGGNC | GANACCCNGA | CACGTCCCTA | CGGTTGTNAC | 660 |
| | CGANTTGGGG | AGGGGGNCAN | | | | | |

1008I1

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|----|------------|------------|------------|------------|------------|------------|-----|
| | TCGAGTCATT | TCTTGTAGTC | CAGTGCATCG | ACAAAGTCGT | CTGCTTCGCC | GTTGGCATA | 60 |
| | GTTATTTTCG | TTCCATATC | GGCATCATCA | GCGTCCTCAA | GCGCGACCTG | AGACAACCTC | 120 |
| | TGGCGCAACT | TTGTCTGGGC | GCGAAGCATC | TCCAGGGGAC | CCCTGCATG | ATAACAGGAT | 180 |
| 20 | CGGGAGCGAG | TCCGAACCTG | CCTTGAGGTT | CGCGCGAAGA | GCCTTGATTT | CCTTGTTACC | 240 |
| | CCGCGGCTGC | AAGGAATCTA | GGTGAGGAGC | ACGCAGTCGA | AGCAACCACT | TAAACCACCA | 300 |
| | ACGGATCGCT | GAGCTTTCTG | TCCAAACGTC | AGAGGCCACC | CGCTGGCTCA | CGATGACAAA | 360 |
| | ACAGTTCATT | GNANCGCNAT | GGAAGGNGAT | NCATGTCCGN | NANATTCCTT | NNITCTTTCC | 420 |
| | TCGGACCANG | NGTNANAAC | NACAGTCCCT | GACGANTTCC | TCACCTANGT | CNCCGCAGGG | 480 |
| | GATNNTTTCA | ACGCCGCNCC | GTCTNNCCCC | CTCNCNCTCG | NNNACCTTCT | TTGTTNNNGG | 540 |
| 25 | TTTTCCCTTN | CCNNCNCNCC | TNNNTNCCAC | TTNGGTTTTT | NNACNCCNTC | NNNAC | |

1008RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGTCTT | GGACGATATC | AACGTCTATG | CCATCTTCCA | AACCGTCTTT | TCCACATTGC | 60 |
| 30 | AACAAATGA | CTCTACAAA | TACCAGTTAG | TCCTAGAAAA | TATGTCACAG | GACGAACAGA | 120 |
| | TGCACCTAGC | ACATATTACA | TCGTTATGAG | CACCATAAAT | CTCATAGTCT | TCCTACTTTA | 180 |
| | TCTTTAATAT | TAATAGTATG | TGTATGCCAA | TCGGCGCGTT | ATGCCCGGGT | AACAGTAGTT | 240 |
| | TCTTTTCTN | GAACATCTGA | AAAAATTCAC | CCGATGAGCT | CTCTTGTTGC | AATGGCGCAT | 300 |
| | CGAGCTACAA | GTGCAGGTGT | ACCATTCACA | TCCCTATCGG | NATTCGGCTG | TTGNTAGAGC | 360 |
| | TGTTAAAATG | ATTGCTTCAG | AAGATACGAG | GTCCTTGGGA | GTTTTCGGCC | CGATGAACGN | 420 |
| 35 | GGTCGCATT | CAAGCCAATG | CGTGAAAGG | ACTCATTGAA | TTTTCANNGA | CCNGNAGAAT | 480 |
| | TAANGGNAAA | GTCANCNCTA | ACCNATTGT | | | | |

1008UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCAAGCGG | GAATTTTCGGC | GCAAAATGCAC | GTTAATGCTC | ATATTGTTAA | CAAGCTCGGG | 60 |
| | GCAGAAAGTC | GCCGTTTGGG | GCTAGAAATT | TCCACATTGA | AAGCGTTCAA | TAACACATTA | 120 |
| | GAGGAAGAGA | AAGCTCGTGC | AGAAGATGAT | ATTTTGAAGC | TGCTAGAGGA | AAATCACACT | 180 |
| | GTGCATCATT | TGAAGACTAC | CAACGAAGCG | TTGACTACCA | AGGTAGCCGA | CTATAGCAAT | 240 |
| | AGACAAGATA | CGATTCTCCA | GCTGTTGGGC | GAAAAGACGG | AACGTGTAGA | GGAACCTTGA | 300 |
| 45 | AAATGACGTC | GAGGACCTCA | AGCAGATGCT | GCGGATGCAA | GCACAGCAAC | TTGGCCGACA | 360 |
| | TGCAAGAGAG | GTTAAGAATT | TAGATTCCCA | TATCTTATTA | ACATTATINA | TNCAANCGGC | 420 |
| | TTGGGTTNGT | TAATCAACTT | CNCCAGATGC | NTAGATTTGG | GTAGTTAGNC | ANTTTTTCGA | 480 |
| | NGTGGNTCAA | ATGGNGGCC | | | | | |

1009RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTTTCGCT | TGGGGCCGTC | CGTTCACGGT | CTTAGAAAGC | AAGCGTGCAA | GCGATGTCTT | 60 |
| | GCCTACCCCT | GGGGGGGCCC | ATAGTATCAT | CGAAGGTATT | GTTCCCTGGC | TCACATATTT | 120 |
| 5 | GTATAGTGCC | CCGCTTTTCT | GGGAGAGAAT | ATGCTGTTGC | CCCACTACT | CCCGCAGCTC | 180 |
| | GCGGGGACGA | AGTTTCTCAC | TTAAGGGCAA | ATGTGCCATT | TTCTGCAGCT | CACGCTGATC | 240 |
| | TGAGTTCACC | GCCCCGTGTC | GACGTGCCCG | CTTCCGTTGG | GGAGAGTCGT | CCATCTCTAT | 300 |
| | CACCTCACTA | TCCTCCATAT | TAACGTCCGA | GATCACAGAC | ACGCTATCCT | CATCCTCCAG | 360 |
| | CTTATGCTTG | CGCCCCAGCA | TCTCAGATAC | GGACGTGGTC | CTCGCTCCTT | TCGGCTCCTC | 420 |
| | CTGCAGGGAT | GCATCTAGAT | GGTATGGATG | TGATGAATGG | AAAGCCTGCA | ATCTGGNAAT | 480 |
| 10 | GGTAAGTCTC | CCCCCCGTAT | CATTTN | | | | |

1009UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCATGCTA | GTTCTGCAGC | TGAGTTTTTA | AAAACGCAGT | ACTGGAGATG | TTTCGCTTTA | 60 |
| | TGGTATCGCT | CCACTAGCGC | ACCGACTGAC | TTTGGTAAAC | GGCTTAGCAC | TGATGCCGGT | 120 |
| | ATTTGGAACG | CCCGTCTTAA | GAAGCTTGAG | TTCCGACCAT | CAATGAAGGG | AGCGCAAGTC | 180 |
| | GAAATTTCCC | AGCCTAGAGG | CATGTCAGTA | GGGTCAAATA | CGTCTTGTTT | TGGATCGCTC | 240 |
| | TGCATCATGA | TATCGACATA | GTAGTCGCAC | ATATCGATGG | AGACGACCTT | GCCGGGGTCA | 300 |
| | AATTTGTTAA | ATTGGTTCAA | TCCCTCAGGC | ACTTGGGTGA | TAACCTCAAG | TAGCGGCATT | 360 |
| 20 | TCTTCAGGGA | AATCGCCCCG | TAGGAGGGCA | TCGAAGNCAG | AGTTNGACGA | ACCNCAGGCG | 420 |
| | GGGGGANTCT | TTGAAGGGAG | AAAGAGGCCG | GGAAATGGTA | CCACTCCGCT | CCCCNTCANA | 480 |
| | AGTTGGCCCC | AGCCTCAATN | | | | | |

1010I2

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|----|------------|------------|------------|------------|-------------|------------|-----|
| 25 | TCGAGGTGGC | GGGCGGGAAA | CCCCTGCGCA | ATCCTGGCCT | CCAGCGCCCG | GCTGACTGCG | 60 |
| | GGTACCGTCA | AGCACTTGAA | GTGGCTCCGC | TCAAGATAAT | CCACCGCCTC | GTTCCGCCGC | 120 |
| | AGCCCGCGAC | TCCCGTGAC | ATCCCGCGGG | ATCAGCTTGA | ACTCCCCCGC | GCTCAGCCAG | 180 |
| | AGTCGGTTGT | TGCCCCACCG | GTAGTCGTAC | TCCTCTGGCA | GCGCCTCGCT | GCTCATCATC | 240 |
| 30 | AGCAGAAAGT | CGCCCTCTGT | GTCGCACATC | TTGATGAAAA | CCTCCGCGCC | CTGAGCCCGG | 300 |
| | GAGAATCGCT | GCAGCACCCC | TGCCACCAGC | GCCTCCTCCT | CCTCGGGGTTG | TCCGCGACTT | 360 |
| | CCACTCCGCC | AAGCACCATC | GCCTGCCCTC | CCGCGCCCCG | CACCGCCCCG | AGGTGCACCC | 420 |
| | CGTGTAACCC | TGNCAAGGGT | AGTGGTCATT | CCACGGCCCG | AACACTCCTC | AAGCTGAGCA | 480 |
| | TGTTCTTGGG | ATCTTTGTTC | GGACGTCAAT | AAAAATGTTC | ATTTGAAAAA | CGATACAATA | 540 |
| | NAGNGGCTCN | GGGGTNGAAA | GTACACACNA | TCACTCTGGT | TCAAAGCATG | TCTCAATNTG | 600 |
| 35 | CGGGGCATAA | CCAATTGCNC | GGTANGCA | | | | |

1010I1

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|----|------------|------------|------------|------------|------------|------------|-----|
| 40 | TCGAGGCGCT | TACGTGGGTC | CACCTGAAGA | TGCGGCAGAC | GGCGCACGCG | GAGCTGGTGC | 60 |
| | GGGCGAAACC | CACCGTGTTT | CCCCTGCTGC | TGGCGAACTT | TCTCAGAAAC | GATCTGTTCG | 120 |
| | TGACCGGGGC | TGCGATGGAG | GGCCAGGAAG | CGAAGTGACG | CGACGTGCAC | GTGCTAGTAC | 180 |
| | CGAAAACACA | CGCCGCGCTG | GCGTCTCTCC | TGCTTGACAC | TAGTCCCGTG | GCGCGGGGTG | 240 |
| | GCGATCTTGG | CATCACCCCT | GGCGACATTT | TATCGTTGTC | CCTGCAGGAT | GCACTAGACG | 300 |
| | CGGGCCAGTT | AACGACAGCT | GAACCCAAAG | GAAAGTTAGA | GGGTGACCTA | GTAAGCGCTC | 360 |
| | TGGTACATAC | AAAACAGCTA | GAGCGCCCCG | TGGAGTTCTC | TACGACTGAA | TTAATACGGA | 420 |
| 45 | GGTACCGACT | TGCGGACAAA | GAGGCGTCTA | TGGATGCCTT | GGCCTGTTCG | TGGAGATTTT | 480 |
| | CTGACAGATT | TAAAGATGAC | GATGAGGTAG | AATGACATTT | CTTGTACAGG | TCTCAAGTGG | 540 |
| | GATGAGAGGT | CGGCATTTTC | GAAGGAGNNT | GGTTTATNAN | NANATCTTGG | ATTTTCTGAG | 600 |
| | GGGGCTNAGN | TNCAAGAAAG | TCANATN | | | | |

1010RP

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|----|-------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCCGGCTC | GCAAAGGAGA | AGATAGAAGA | GCAGAAAGAA | TACCCGGTGC | AGGAGTTTGA | 60 |
| | CAAAAAGCTG | TATCATAGCA | ACCCCGCAAG | GTA CTGGGAT | ATATTCCTATA | AAAATAACAA | 120 |
| 5 | AGAAAACTTC | TTCAAAGACA | GGAAAGTGGT | GCAGATTGAG | TTTCCCTCTC | TATACGAAGC | 180 |
| | TACCAAGAAA | GATGCTGGTT | CAGTGACTAT | CTTCGAGATT | GGGTGTGGTG | CGGGCAATAC | 240 |
| | CATGTTCCCG | ATCTTATCTG | CAAAACGAAAA | CGAACACTTA | CGCGTTGTGG | GTGCGGACTT | 300 |
| | CTCCCCGAAG | GCCGTGGGAA | TTGGTAAAGA | CGTCGCAAAA | CTTTAACCCC | TCGAATGCCC | 360 |
| | ACGCGACGGT | ATGGGACTTT | AGCCAACCCCT | GATGGTCTTT | TGGCCGATGG | TGTCGAGCCG | 420 |
| | CATTCCGGTCG | ANATCGNAGN | AATGATTTTN | GTTTTAGTGC | CTNNGNGCCC | ACAGGGGGCC | 480 |
| 10 | AGGNTNTGGT | TATTGGANAA | AGTCTTNANC | AGNNGGT | | | |

1010UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGACA | GTAGCAGCTT | GACTGAGTAT | CAGCAGGAAA | AGCCTAGCTA | ATTGGCGCGA | 60 |
| | GTACAATTAC | AAGTACCTGT | CTGACTACTT | CTTTGGGTGG | GATGCCATAT | TTTTTAGGAT | 120 |
| 15 | GGCCTGCAAC | GGGCCGGTGG | GGGCGCCATC | CAAATTTATG | GAGTTGAAGA | GCTGTTCAAT | 180 |
| | GCCCTTTATC | CCATCTGCAC | CGTCTTTATC | GCCGAACATG | GCATGCAACT | CTTCAAGCAT | 240 |
| | GATATCTTCT | TCCTCGTGCT | CTGATCCGGC | GTGGTCCGTC | GTTTGGGCAG | TCCTCGTAGG | 300 |
| | CGCCATTTCT | GTAATGTGA | AGCTGGTCTT | TGGTCATCTT | CAGACCCCTC | CGTCAGGAAA | 360 |
| | TATCAAAAGAA | ATCGGCTTCA | CTAATATCTA | CGCCTCACTC | TCGAAAAATG | TCCGAGGCTC | 420 |
| 20 | TTTCATCCCCA | GCTGAAGGAC | CCTGACCAGA | AAAATGTCAA | TGGTACTCAA | CGCAACTTTA | 480 |
| | ATNTTNCAAG | AN | | | | | |

1011I2

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCTCTTGC | ACCAGTCCAA | ATCAGCGGGG | TCGTCCACCT | TTCCCTCCATA | TATGATTTTG | 60 |
| | CCGATGGTGT | CGCTGACAAG | CTTCCAGGGC | ACCAAAATCGG | GGTCGACATG | CTCCTTGCCG | 120 |
| | TTACTGCTCT | GTTCAAATAT | GTGGTCCAAA | AACCTTGCTAC | CTGCGTGGAA | GTCACCATCG | 180 |
| | TGGAAGTCGT | ACTTCTTGGT | GAATCCAATA | GGCGCGAGAC | GGCACCTGGC | CATGATAATA | 240 |
| | GAGTGGAACC | ACACGAGGAT | GAACCTGCTA | TGAAGTTTTT | CTACTGGTTT | GACATTCTTC | 300 |
| 30 | AGTTCCCTCTG | ACTGAGTCCG | CCACAGCTCG | CAGACTGTGT | TTAGAACGCC | GGGCTCACCC | 360 |
| | TCGTACGCTA | TCTTATAGTT | CTGCTGAGCA | AAGGAACCAC | TAGAGGCTTG | CTTTGGGATC | 420 |

1011I1

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTGCGCG | GCGGATGTTT | AGCAGCGACG | CGTATCTAAA | CAATTTGCGAA | GTTGTCCAAG | 60 |
| | GCCTGACCGT | TCCAATAGAC | CGCTCTAGCT | ATTCCCAGTA | TGACAAATGG | TTTAAATCGC | 120 |
| | TAGATGCAGC | TGCAGAACGT | ACAACCTGCC | GGTTAGAGCT | GTCGGATGCT | TCGGCCCTGC | 180 |
| | AAAACTTCTA | CGCTCAGGAG | GCCAGGATGA | TCTGCAAAAA | AATCATCCAG | ACCAATGGCC | 240 |
| 40 | CCACATCTTT | AATTCACTGA | GTGTAATGTC | CATACCTCCA | GTA CTACCA | GTCTTTTGGT | 300 |
| | TTTCTGGATG | TCAGATACCA | GACTATGTAC | TGAATAGCGA | CAACATPAGA | TATCTAAAAA | 360 |
| | GTCTGTCCGT | TTACAATCTT | AAGGTCGGCT | GAAAGAAGAG | AAACAATCTT | CGAAAACAAT | 420 |
| | ACTAAGGCGA | ATATATCAAC | GTAATATGAC | CGCTCAGGCT | TCGGATAACA | TTCCGATATC | 480 |
| | AGAGGGAGAA | GACTCCGCNG | GNGTCTTGNC | NNTCNGGCGN | AAATTGCNCA | GTNTTNATCC | 540 |
| | CGGNAGCCNC | CCACNGGTTT | TCANACCCCT | TTTTNNGNGT | TCNCGNCAAT | NAAGGGNGNC | 600 |
| 45 | CTCCTGCANT | TACCTTANNA | | | | | |

Pag1011rp

5 1 GATCCAAAGC AAGCCTCTAG TGGTTCCTTT GCTCAGCAGA AGCTATAAGA
51 TAGCGTACGA GGGTGAGCCC GGC GTTCTAA ACACAGTCTG CGAGCTGTGG
10 101 CGGACTCAGT CAGAGGAACT GAAGAATGTC AAACCAGTAG AAAA ACTTCA
151 TAGCAAGTTC ATCCTCGTGT GGTCCACTC TATTATCATG GCCAGGTGCC
201 GTCTCGCGCC TATTGGATTC ACCAAGAAGT ACGACTTCCA CGATGGTGAC
15 251 TTCCACGCAG GTAGCAAGTT TTTGGACCAC ATATTTGAAC AGAGCAGTAA
301 CGGCAAGGAG CATGTGCGACC CCGATTTGGT GCCCTGGAAA GCTTGTCAGC
20 351 GACACCATCG GCAAAATCAT ATATGGGAGG AAAGGTGGAC GACCCCGCTG
401 ATTTGGACTG GTGCAAGANA TCTGCGCGGC GGATGTTT CAG CAGCGACGCG
25 451 TATCTAAACA ATTCGAAGTT GTCCAAGGGC TGACCGTTCC ATAAACCGCT
501 CTANCTATTC CCAGTATGAC AAATGGGTTA AATCNCTAAA NGCANCTGCA
30 551 GAACGTACAA CTGCCCTGNT TANANCTGTC GGATGCTCGG CCTGCAA ACT
601 TCTACNNCNC GAGGCCAGNA NGATNGGCAA AAAAATCTNC AGANCNANGG
35 651 CCCCCTCCTT TAATCCCTNG ANTNTNATNT CCAACCNCCN TTNCCCCATC
701 TTTTGNNTTT TGTNTTAAA AACCAAATTN TC
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1012/RP

1 GATCCTAACC CAACTGCACA AAATTGTCAG TCATATGTTG GGAGGCAGTT
5 51 TACCCTTCCG CCGCAAATA CATACTTCTC CTTAGGAAAC GCTCCTCGCT
101 CAGGACTGCA ACTGCATTGA CGAGCAGCAG AATAACGTAG AATAGCTTTC
151 CCAGGCCAAA TATCATCCCT CCACGTACAG TCTATCAGCA GTGTA CTGCG
201 CTGTGCGAGA AGTGGCATT CACAAGATAAG CAGAAGTAGT TCTAAAAATC
251 AGTGGTCACC AACGCGAGGC TGCAAATCG TGTTGTTTCA TCCCATCTCA
10 301 AAGCATCGCC TGAAAACAAA GGCTCACAGT TGCAGGTGCC CCGCGTGAT
351 AACAGATGAT AATTTATATT TTAAGTTATA TTAACACACA TATACAAAAA
401 GATTTGGTAG TGGATTAATG ATGATTTGCT TAATCAGCGT TACGTCTTGC
451 GGCCTTCTTA GCCAATCTCT TACCGGTACC AAAGACCTTC TTACCTCTGT
15 501 TCTTTCTTTG CTTTCTCTGT TGTCTGGAAG CTTTCTCAGC CTTCTCAGCC
551 ATGCCGTATC TGACCAATCT GTANGTTGGC TCGAACTTCT TGGCGTCNGC
601 AACAGAGTTG TAGATCAAAC CGAAACCGGT GGACTTGCCA CCACCAAAC
20 651 GGG

1011UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTCACA | CGCACTATTT | GTCCAAGGGG | CTTCAATCGT | CATTGCATTA | CACGAAGAAA | 60 |
| | CAATACTTAC | ATGAGAATGG | AACAATAATA | AACTAAGCGT | ATGGTGCCTA | ATGATTGTCC | 120 |
| 5 | AGATGGGCGT | TGCTGTTCGT | GAACAGTAAA | TGCTTGGCAA | ACTCATAAGA | TGTCCACGAT | 180 |
| | ATAGCAGTTG | CAGGCATGTT | GCTGATAATT | CTGGGTTTTA | GGCCCCGAAA | GAACCCGGAC | 240 |
| | CAACCATATG | TTTTGTGGAT | TGCAGATGCA | GCCTTGCGGA | ATGTGTCAGC | CTCCTTGAAC | 300 |
| | AGCTGACTTT | GAACAGAATC | TGCACCGCGA | ATCTGCAATA | CTGTCTTCAC | GCAGTCTAGC | 360 |
| | GGTGTGGGTT | ATGGCGGCAC | ATGTTGGCGC | CCGGATATCC | CACCGCACAG | ACAATGTATC | 420 |
| | CAGGGGTTTG | TAGCTGGTTA | CTCGGATTGA | TTATTTTGGT | GGATGATTCA | ATAAATTACA | 480 |
| 10 | AAAATTCAAC | GCTGCGACGG | ATTGTTTATA | GCAATAGTTG | TCCGGTTATG | ATTAGAAAAA | 540 |
| | CGCTTGAAAT | GCCCCTCGTG | GGTCAATCCG | CACGGGGCAT | CCCGCAATGG | ANCANTGGGG | 600 |
| | TGAANTGAAC | TCTTTGGTGG | GNGNNANCGG | TCCNNAGGGA | C | | |

15 1012UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTCCTC | GAGCGCACCA | CGCCGCCCCA | CACAGACTCC | GAGAACCTGC | TCTTCCTGGA | 60 |
| | GGGCACCAAA | ACATGCTTCC | AGATGTTTAC | GCAGCAGGTG | GAGGTGCGCG | CAGGCTCGGG | 120 |
| | CCAGGCGAAG | ATCCTGGTCC | GCGTCTGTCG | GCGCTTCTGC | AAGCTCCTGT | TCGAGCGCCA | 180 |
| | AAGCCACTGG | ATGCAGGCCA | TTTCGTCCGA | GGTCAAGAAG | TGCCTCCAGT | ACAACCACAA | 240 |
| 20 | GTATGAGAAA | GACCCCGACA | ACATCGCGCA | GGAGGAGGAG | TGCGCCGGCG | GCCTCGTCCA | 300 |
| | GTACCTCGTC | GCGGTCCGCA | ACGACCAGAT | GAAGGCCGCA | GACTACGCCG | TCGCCATCTC | 360 |
| | GCAGAAGTAC | GGCTCCATGG | TCTCCAAGGT | GCACGAGCGC | ACCATCACGA | ACCGCATCGA | 420 |
| | GGAAGACCCCT | CGACGGCTTC | GCAGAGGTCC | CCAAGTGCAG | CAACAGCGGC | CTCGTCGCCC | 480 |
| | TGATCTTCCA | CGACCTGCGC | CGCCCCTACG | CCGAGATCTT | CAGCAAGGCC | TGGTACTCCG | 540 |
| | GCAACCAGGC | GCAGCAGATC | GCAGACACCC | TCTACGAGTA | CCTCGCCGAC | ATCCGCAGCC | 600 |
| 25 | AGATGAACCC | TTCTGTCTACT | CCACCCTCGT | CGAGTCCGTC | ATCGAAGAGA | | |

1013I2

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|----|------------|------------|------------|------------|-------------|------------|-----|
| 30 | TCGACAAGGT | GACCAAGGAG | AAGTCCAACG | GTGCCTCCGT | GCCATTGGAC | GTCCACCCAT | 60 |
| | CCAAGGTTGT | CATCACCAG | TTGCACTTGG | ACAAGGACAG | AAAGGCCTTG | ATCGAGAGAA | 120 |
| | AGGGTGGCAA | GTTGGAGTAA | ATGCATTCCA | CAGGTCAGCC | AGCATATTAT | AAGTAATTAT | 180 |
| | GTTCTACCAA | CTCTCCTCGA | TATATAGTAA | GTTCAGAAAG | TCGTGTTTCA | CTAGTGTTTA | 240 |
| | TCAGTGGGCA | TAATGACTGC | TCTGGTGCTC | CGCTCGTGCG | CAGCCATTCT | TGGCGGACAG | 300 |
| | CCATGACTCC | CGCGGACCAG | TGAACAGGCG | CGAAATTCCG | TTCTCCGGGC | CGACCACNT | 360 |
| 35 | TGGACTCTTA | TTGATTTCTT | TCCGCCCTAA | GAAAGTAGAC | AGCGCCTACA | TATATGACAC | 420 |
| | ATCCCTGTCT | GGGTGTTTAA | GGAGCACCGC | TCTGAAGAGC | AGGGAAAAACA | CGGAGTCACT | 480 |
| | AGGCTCTGCT | ACGGCTCGAG | GTTTTGGAAG | TGAGTTTGNA | ATTATTCTGTC | CNNTGAGAAN | 540 |
| | TGANAGGGGT | GGAGGCCGTC | ACCCGATCAA | CAGACNANCA | GGCAATGGTN | TGAGTNGNAA | 600 |
| | CACAGCNCGG | CGAGAACGTG | GCAANCNTCN | ANGNA | | | |

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1013I1

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | TCGACGCGGA | CAGCGTACTT | CAATCTGTAG | ACAGAAGAAA | CCTTGCCCTC | TTGGCCCTTC | 60 |
| | TTGGAGCCAC | GCACAACCAT | AATCTCGTCG | TCCTTTCTGA | TTGGTAGAGA | CTTGATGTTG | 120 |
| | TACTGCTCTC | TCAACTCCTT | GGATAGAGGA | GCAGACATGA | TCACGCGGCG | CTCGGAAGAT | 180 |
| 45 | GGCGCGTTGA | AGTACGCCTT | TCTGGCCTTT | CTTCTGTGCG | AGGAAACGTC | TGCAGACATG | 240 |
| | TTAGTACTGT | GCCGGGCCAC | CAACTGTGTT | CACGCACTGG | ATTATGCTAG | GTCGCGCTGC | 300 |
| | GCGCTGGGCC | GTATGCCACG | GTTACCACGG | ATCGCAGCGC | CAGAGACGCT | CATTCCCAAT | 360 |
| | GTTTCGGGAG | CCACCATCGT | TCTGTACAT | ACCTAGAGAT | TGCTTAGCCA | TTGCTGATTC | 420 |
| | GCCTGGTGTCT | GTGTAAGAAC | CTCTGTTTCA | NNATGTGNAN | AATCTCAATN | GTCGNAACTT | 480 |
| | TTTCANNTTG | TCCCGNCTAC | GCTGNACCCN | CTNNCNNTCG | TNAANCNCCN | NNNNNNNNCN | 540 |
| 50 | CAANCGTTTC | GCTANNTNNN | TCCTANANAC | NNANANNNT | CNNCINNNAAN | NCCCNNCNNN | 600 |
| | CACNNNTTTC | NACCNCCNNN | CAANNNNNNN | NNCNNNNNNN | NANCCCNNNN | NATNNTTCAT | 660 |
| | NCCCCCTTNC | NNNACTNNNN | ANCCNNNNNC | TNNNNNNANN | NTNNNCNNNC | ATNNNAACNA | 720 |
| | NAACNCC | | | | | | |

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1013RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | ANAATGGCTG | GTAGTTATTG | TTAACCACTA | GTTTCTCCCC | GAAGTTGAAG | TACTTCACAT | 60 |
| | AACTCAGCCC | CTCCGAGGGA | CTCATCTCCT | CGTACAGAGG | CCTATTCAAC | TCAATGCGCT | 120 |
| 5 | GCTTGTAAGT | CTCCAATGCA | TCCTGCCTAT | TCCAACCCCT | GTNGTCTGCA | GAGGCTGCTG | 180 |
| | CCATCTCCAC | TGTGCGCGCC | CTCAGAATTG | ACTCGCTCAC | GACAGACTCA | ACGAAGAATA | 240 |
| | CTTTTACATT | AAGAGCAGCA | AACTCCTCGG | CGAGCATTCT | GCGCTCCTCG | CGCATGATGT | 300 |
| | TCATCCCATC | ATAGACAGNA | AGCTGTCCCT | GCTCGAAGAA | CTTCTTCATG | TCCGCCCTGGA | 360 |
| | TCTCGGCTAT | CAGCGTGCGC | CGCAGTCTGA | TCCCTTCCCG | CGTAACTGGT | CTGGTAGAGA | 420 |
| | AGTAGTCCAG | CGGTAGNTTC | ACCATCCCCCT | GCGGGACCCG | NGNCCNNGCA | TACTCGGACA | 480 |
| 10 | CANTGAAGGA | TTGTGTGNGC | ACCCCNAGCC | ACCCCCGTAT | TGCGTGTATT | GNCACCGNAA | 540 |
| | CAANNNTTTT | GGGTGNTCGT | TGNAGGCCAC | CCAGGACGNA | CCAAAATTTT | TCCCGCNTTG | 600 |
| | GAAANCCCCC | CAGNTCCCAN | NNNGNAAATT | GGNCCCCGGG | AATTTTTTNG | CCCTNGGCNC | 660 |
| | CNCCGNCNG | | | | | | |

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1013UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCTTAC | CAGCCCAGTA | GTGCGCCACA | GGAACTTGAG | GTTGGCTATC | CGGCTGACAC | 60 |
| | GAAGTATATC | GACCCTTTGG | CAGAAGTTGA | CATATGTAAA | CGGGATTTCG | CGCATTGTGAA | 120 |
| | AAAGCTCGGA | GTCAATACCA | TTCTGTGTTA | CTCCATTGAT | CCAACCAAGC | CACATGACGT | 180 |
| 20 | TGCGATGGAG | GAGTTGAGCA | AGCTGGGAAT | CTACGTTCTC | ATCGATTTAT | CAGAACCAGA | 240 |
| | CACCTCTATA | ATTAGGGAAA | CACCAACATG | GGATGTAAAA | GTATTCCAGC | GGTACAAAGA | 300 |
| | CGTAGTAGAC | TCCATGCAGA | AATACAATAA | TGTTCTGGGC | TTTTCTGCTG | GTAACGAGGT | 360 |
| | CACTAATGAC | CGCACGAACA | CAGACGCATC | GTCTTTTGTG | ACGGCGGCTA | TCAGAGATGT | 420 |
| | CAAAAACCTAC | ATCAAGCAAA | TGGGATACAG | AACTCTTCCG | GTTGGTTACT | CACCATCGAT | 480 |
| | GACCAGGAGA | CGAGGGATCA | CTGGCCTGAT | ACTCCCTTTC | GGTNGCGTAT | CTNCAGANNC | 540 |
| 25 | TTTTGGCATA | ANTTTGTCCG | ATTGGGCGCG | CATCCACCTN | CNGACGANCG | TTCAAGAGAG | 600 |
| | NGCCTTNCNA | TTCNNGAACT | CCCCTTGCCG | CC | | | |

1014RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 30 | GATCAAACTG | CCGTCTTTGGC | GCAGCACGCG | GCCgCGCGAG | TTGGATACGC | GGTCCGCGTC | 60 |
| | AAAGGCCACG | CCgAGCGCGC | CAAACCTCCG | GAGGGGCTGG | CCGCGGTAGC | CCAGTGACGT | 120 |
| | GATAAGCACG | TCCAATTCTG | AATCCAATTG | CTCGTCCAGG | TGACGTACAA | CCTTGTTTTT | 180 |
| | AGGGGTGAGG | GAGTTTTTGC | AGACGGTCAG | CGCAGATATC | GCGCCGGCGC | CGTCCCTGCG | 240 |
| | GATGTAGAGC | GGCGTCTTGA | GATAGTCGGA | CACCCAGGCC | TTGGAGTAGC | CTTCCGCGCG | 300 |
| 35 | AGGAGGGTAT | TTACTCGCGG | ACTTGCTGCC | GCGGGCGGCG | TACGGCAGCA | GGTACTGCTG | 360 |
| | GCACATGTCA | ATGCGGCGTT | TGCTGCGCGC | GTCgAgCGGC | AGCgCGGcCC | ACGCCTcGGG | 420 |
| | CGTGAAGTGC | TGGGGCGCGA | TGTGGCCGCG | CACGCCGCGC | CGCTCGAGCT | CCCACATCTC | 480 |
| | GCGCAACTcC | TTGNTCGTGA | ACTTGCTGcC | GAGGAAGTCC | CGGCGCCCCG | TGAGACGCAC | 540 |
| | CTCCTCGAGC | GGCgCGCGCC | GcAaCGCCTG | CAGCGCGTgC | gGGTTTGATG | TCGGtCTGGC | 600 |
| | CC | | | | | | |

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1014UP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCAGTGTT | CGGGGCGAGC | CGGAGAGcAT | ACTGCTGTCA | TGTCTATACC | AGGAGCTGCT | 60 |
| | CTCGCGGGTC | ATTGAGGAGT | CCAAGCGTTT | TGCAGACAGG | GACAGCACCA | AGCACATCAC | 120 |
| 45 | AGCCGAGCAC | CTAGATGAGG | CGGTGGAGGC | GTTGCTGGGA | GATGTAGACC | GAGGCGCGGA | 180 |
| | CGGGGCATGG | CCTTGATGTA | AGTCTATGTA | CAGGATATTA | GCTTTCAAAA | TGCATGGTTG | 240 |
| | GGGTACTTCA | GCGTTTCCAC | CATGGAAAGG | GCGCTGGCGG | CGTCGTTTTT | GTTGAGCACG | 300 |
| | AAGAAGGCCCT | GGAGCTGCCG | GGtCGACACT | GGGACGCCCTA | GCGCGACGGC | CTTGGCGACA | 360 |
| | AACTcCGCgC | AGAGCGCCgA | GTCGTCCGGG | TAGAAAGCGCA | gGAACATCTG | CTCGATCTGG | 420 |
| | TGCGGCGgTTG | CGTTCCCCAC | AAgGACCTTG | TAGTCGATgC | GGCCCGgCGC | CaGCACGGCG | 480 |
| 50 | GGGTGAGGGA | CCTCGGGATG | GTTGGTGGTC | ATAAAGGTGA | TCATCTTCTC | ACTGGAGGCG | 540 |
| | ACgCCGTcCA | GGGCGTTGAg | CAGCCCGCTG | AaCGTGACGC | CGTTGGTGTA | ACCGTCGTGC | 600 |
| | TTCTTCTTgC | GCTTgACAAA | GGCGCGT | | | | |

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1016RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATGTGAATC | GATGTGTGGA | GACGAGTGTA | ACTAGACACA | AGCTGGCGAT | GCAGCGAGAT | 60 |
| | CTAACAGGAA | AGGTGCTGGT | TGGGGAGAAA | AGGTACTACG | AAGAGGTAGT | CACTAGTGTC | 120 |
| 5 | ACCTACAAGC | CTACACACCA | CCAAGTGGT | TACGAAAATC | TAAATACGTA | CCTCTATCCT | 180 |
| | ACAAACTACG | AGGTGcGCGA | ATtCCAATTC | AATtTTGTCC | ATCGtGCGTT | ATTGGAATAAT | 240 |
| | GTGCTCTGTG | CGATTCCAC | AGGTaTtGGT | AAGACCTTCA | TTGCCAGTAC | GGGGATGCTC | 300 |
| | AATTACTATT | GGTGGACAGG | GGGCACAAA | ATTATTTTTTA | CTGGTCCCAC | ACGACCACTT | 360 |
| | GTTGGGCAGG | AAATTAAAGC | ATTCTtGGGG | aTTACTGGTt | TTCCCCNTTA | TGATACGGGA | 420 |
| | ATNCTTCTTT | GACAAGAGCC | NNNNGCACAG | GGNACAGATT | TGGGNCAAAA | GAAAACGTTT | 480 |
| 10 | TTTTTTTCGN | NAACGCCCCC | CANTGGGGGG | GNAANTTTCC | CCNNGAGAG | GGGGGACTTN | 540 |
| | NNTCCCCNNA | GANNNTNGGN | TTTTCTNGGG | NNTNNGNNGA | NGGNTCCACC | CCNGNCNNGG | 600 |
| | GGGGCCACN | NCCCCNCNN | NNGGNNTTTT | NNGNNNTTN | TTTTNACAAA | ANTTNC | |

15 1016UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCATCGA | ACGTCCATTT | TATACGACGA | CATTTTTATA | CAATTTTTAT | TTAATAATGA | 60 |
| | GGATTTGGCA | TTCCCTCAAA | CTCGCTGACT | AGAAGTTAGC | TGGTGCTAGT | AGTGTAGCTG | 120 |
| | GGCTAATGTC | GACTGAATTG | CCGTTGCCGG | TGCTGGAGGA | TTATTTTGTG | TCCGCAGCTA | 180 |
| | ATGCCTTCT | GCCAGATGAA | TTCCCAGTGA | AAGAATTGCA | AGATGAATAC | TATCGACCTT | 240 |
| 20 | GGGAAACGAT | TGTGAGTAAT | CTACCCGCGC | TATTGTTGGC | GCGACAGCTG | CGGGATGTGG | 300 |
| | TGGACCAGCT | GAAGGTGCTG | GAGGTGAAGA | AGGAGCTGTT | CGACGATATT | TCGGCAGGTT | 360 |
| | CGGCGCGCAT | ATTCGGCGTT | GGGCTTCAAC | GTCAATGCGT | ATGTGTCGAG | CTACGACGAC | 420 |
| | GCGTTTCGACA | CGATT | | | | | |

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1017I2

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTTCTTG | GCGTCGGGCA | TCAGACAGGC | GTAACATAATT | TGATCATTCC | TGGTGCGGGT | 60 |
| | GAGGCTAACT | ATGATGCATT | GGAAGTTAAT | CCTTACGAGA | CGACGAAGCA | AAGGAAAGAG | 120 |
| 5 | CAGGAGGTTA | GATCGCTACT | GAACAAATTA | CCTGCTGATT | CTATTGCATT | AGATCCAAAT | 180 |
| | GTGATTGGTA | CGGTCGACAA | GCGTTCTGCG | CAGATTAGAT | TGACCGCCAA | AGACCTGACC | 240 |
| | CAAAATCGCAA | CTGATGAAGA | CATGAAATCT | AAGGAGAATA | GAGACATTCC | AAAAGCAAAC | 300 |
| | CCTGCTGTGA | AGAGTAAGAA | ATTGAGGTCT | GCGTACATTC | CTCCGTAAGA | AGACGCAGAA | 360 |
| | TGTTGTAGAT | GAGAGGAAGT | TGAGAGTACA | GAAGCAGTTA | GAAAACGAAA | AGGNGGCCCN | 420 |
| | CTTGCGGAAG | CANCAANGCTG | CTGAGGNGAG | CTANCAGNAG | ATNCGANCTN | CCCTGNCGAN | 480 |
| 10 | GCGTCAGCNA | GTCCTACTCGC | NNNNNNCTCA | CCNNNNATTG | TTGCTTNNCN | GANTTCACNC | 540 |
| | CANNNCNCCT | CCCGNNCTNN | NNCTTNCCCN | NCCTNCCNNTC | ACCNCNCCNC | TCCCNNTTCC | 600 |
| | NANCCACNC | CCCNCCNCC | NNCCCCNNCN | CCNNNNNNAN | NCNNNCCCCC | CTCTNCCCCN | 660 |
| | NCCCCCCNT | NCC | | | | | |

1017I1

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTTCAAA | TGGGACAAAT | GCAAGGCTAT | TGATCTTATT | CCCAGCAAAC | AAGTGCGACA | 60 |
| | TGTATGGTGT | ATTTTGTGTG | GGCAACCGAC | TGCTGGTGAA | AACGGGCTTA | AAATCTGAGC | 120 |
| | TAGTTTTAAA | GGCATCCTTC | CAAAGTGTC | CATGTGGTCC | TCTCGACACT | GCAAGCAAAGC | 180 |
| 20 | CCATGTCAGA | GATTTTCA | TTGCTTGCTG | GTATAGGCAG | GTTTTCAACG | GAATGTAAC | 240 |
| | CCTTGAAGTT | CCTGATATCC | CACAGTCTCA | TGGACTTATC | TGCTCCGGTN | TGTAGCCATA | 300 |
| | TAGTAACCTT | GCCTATCTAC | CGCGACACCA | GTGACGGGCC | CGGTACC | | |

1017RP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCAAGGTT | GAAAACGAGC | AGCGTGATAA | AAAAGAGCAT | GACGCCGATG | TCCCTGAAGA | 60 |
| | GGAATTTAAG | ATTAAATATA | CCTCGACCTA | CTATAAGGTT | GAGAATATGA | CGCGTGTAGT | 120 |
| | ACCACAGCAA | TTAAAAATATA | TTGCATTTC | AAAGGATGAG | AGATTTACTC | CCGCTCGCAA | 180 |
| | GTTTAAGGGT | AGCAATGGCG | TTATAGTGCT | ATCGGACAAA | ACTCCTGACG | AGCCGGTCTGA | 240 |
| | AGTAATCAAA | ACCGCTAGAC | AGGAAAAAGA | GACGGATGCT | CCTCTGCCTG | CTCCCTTCAA | 300 |
| 30 | GGTTCAGGAT | GACTTAGAAT | TCTGAACTGA | TAATTAGGAA | GCGTCGATTA | TGTTCAPTAG | 360 |
| | GAAAAAGGGT | ATTTTCTTA | GAAACGAAAG | AACTTACTGA | TTGCAGCTCT | CTCTAAACAA | 420 |
| | GTATATTATG | AGGTGATTTA | TTTCAACTGA | ATCTGGCTAA | CGCCCGGCAA | CTAGGTCTTA | 480 |
| | TCTTCTTGTA | GTCACCCTAG | AGGTGGTGGT | CCCCAANC | CNC | | |

1017UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTCCATC | CACGTTTTGG | CCTCGTTCCT | GAGCTCCTCT | GTGACTTCAT | CCTTGATACG | 60 |
| | CGCAATTAAG | CCAGGGCCTC | TGTATGCGTA | CGCAGTGTAG | AGTTGCACAA | AGTGCGCCCC | 120 |
| | CGCTTTGGCA | AACTCGATGG | CATCCTGGCC | ACTACTGATA | CCACCACATC | CAACCAAAAC | 180 |
| 40 | CAGGTTTCGTG | TCCTTTGTGT | ATTGGTGTAT | CGTGCGCAAA | GCTTTTAGCG | CAAAATGGTTT | 240 |
| | CACGGGCTTG | GCGGACAAGC | CGCCTGCCTG | GTTTTTCAGC | TCCTCATCGA | CAGTGTACAG | 300 |
| | CGAGTCTGGC | CTTTGGATAG | TAGTGTTTGG | AAACGATGAT | ACCCCAATA | CTCGATTTTC | 360 |
| | TTGGGCGGCC | TCTGCGATCG | ATTGGAATCC | TGGCTCGGTC | AAATCCGGTG | CGATTTTAAAC | 420 |
| | AGGAAAGTTG | GTTATGGTTA | CTGGACCAAG | AAAAATGCCNC | CGTGGNCAAA | GATTGGGTTA | 480 |
| | GCANAACAAG | NTN | | | | | |

1018RP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCATCGTC | GAGGAGTACA | CGCACTCGCT | CTgcgCGTGC | GTGAACTTCG | CCGCGTGACA | 60 |
| | CCCGtACTTC | TTCGACGCCA | CCGTGTTcAG | GAACCGGCAC | CCGGCCGCGT | CGTACAGGTG | 120 |
| 5 | CATGTTGTG | CACGCCGTTG | CGCTCAGAAG | GTACTGTCCA | TGGTCGTGCA | ACGACAGCGA | 180 |
| | CGTGATCGGG | CCCTGTTCTT | TCTGCGCCAC | CTTGAAAGAC | TTGACCGCCC | GGAAACCCCGC | 240 |
| | CAATGTGTCT | TGTGTGATCC | CGATACTCAT | CCCGCTCGTC | TTGCAGCTTC | CGGTCTCTGG | 300 |
| | CCCTCTCGCC | GCTGCTCTGC | ACTGCTGGCT | AGCAGAGCTC | ACCAAAATTT | TTATAGCCAT | 360 |
| | GGCCAGGCCA | AACTTcaCTA | ACTGGGGAAC | CACACGACCA | CAGCAAGCAA | TGCCCTCAGT | 420 |
| | ATGTcgGtCG | GtCGCACCGT | CCTGGGATCG | CTACTAACCC | GCACAGCTCA | AGCAGATGGT | 480 |
| 10 | GCAC TTCAGC | GCCgACCTCG | CGCTGGtGGC | GATGGtGGCTG | GCC | | |

1018UP

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| 15 | GATCGCGTGT | ACGACTTCAT | GCGGATGCac | tACGTTATCA | CCCAGATGGT | GGTGGGGCGC | 60 |
| | GACTTTTCGGT | TCA TGCGCGA | CTACCTGGAG | GTCCTGGCGC | GCCGGCTCGA | GCAACACGAG | 120 |
| | TTGTGCGATG | CCCGCATGTC | TGCCGCTGTG | CAACGGGACC | ACATTGCCCG | ATACACCGAG | 180 |
| | CTGCTGATGC | TGTATGCGCG | GAAGTCTGGG | GATGAGAAAA | TGCTGGCGGA | GCTCTTTGCC | 240 |
| | TCCTTGGTTCG | ATAGTCTGCC | TGCGGGGATG | GGCGGAGCCA | CTCTTCGTCA | GCCATTGCAT | 300 |
| | GAAGTCATGA | CGTACCTGAT | CAGCGAAAAC | CAGCCGCAAC | AGGTGCTGAA | ACTGGTGGCG | 360 |
| | GGCATGCGCA | AGGCGGAGCC | CAATCGGCGG | CCGGGCAAAAT | CCTCCGTTCC | AGGCACCTTG | 420 |
| 20 | GCGCTGGTTG | TTTCGGCGTT | GCGACAGTTC | AACAACTCTA | ATCTCGTCGT | GAGCTTTATT | 480 |
| | GTGCAGGCAT | ACAGAAAGAC | GCAAACGAGA | GTGCTGCTGG | GACAACTCgG | GCTATGGTCT | 540 |
| | CTGGCATTTT | ATGGCCGCGC | TGTTGCGCTC | TCTcCGAgG | CGGCGAAGTC | GCCGCAgGag | 600 |
| | CTGGCGCagA | TATCGcCTGT | GGACCTGCCG | AAgGAGCTAA | TACTGAAGTC | CGtACCTgaC | 660 |
| | AGCTGATAAT | GTGCgAGCTC | TATCAGCGAA | TCTATcCgAG | AAgcgATCGc | AGGTGCCCGc | 720 |
| 25 | GGAgGAgTAC | CgCGAGATTT | AATCCAgCTa | TTTGGCGTTT | AcCAGGACTT | | |

1019RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| 30 | GATCCATGAC | CCATGCTAGG | TGGAAGGAGC | CCTTACCCGC | TAACTCGGAC | TCCCTCTTCA | 60 |
| | ATTGCGCTTAT | CAGTTTGGTA | TCCACAGCAC | CCACGTCGTA | CAACAACCGC | CCCATCAGCG | 120 |
| | TAGACTTGCC | CGCATCCACA | TGGCCTAGAA | CAACAAACGA | CATATGGGCG | TTCTTCTCAC | 180 |
| | GTACATATGC | AGGGATGTCC | AATGGGTTC | GCGGGTTAGT | GGGCTGCACA | ACCTTCTTGG | 240 |
| | CCGACGGCTG | TTCGCCCTCC | TTCGGCCGCG | AATCCTCCTC | CTCGTCCTCG | TAGTTCTTCG | 300 |
| | GGGCCCGCTC | CTTGTTGTTG | AATTTcAGAT | CGGCCACCTT | CTCGGCCACC | TGCTTAATCT | 360 |
| | CAAAGGCTCG | CTTCTGGGAT | TCCAACACCA | CGTCATCCGG | CGAGGGCTTC | ATGAAATTGG | 420 |
| 35 | CAC TGCCCTG | CTTCTTAGCT | GCTTTATAGT | TGTTAGGATA | AAAAACTGAG | AACACCTCCT | 480 |
| | CCACTCGCCT | CTTGAGCTGG | GTTTTCGCTG | GTTCTGCGCA | TCCTGTCTGT | CTCGAGAGGA | 540 |
| | GCACGCTCGA | CAGCTGCAGT | GCAgGGCGCG | CTGCAgGCTT | GAAGGACGGc | TGACGCTGCA | 600 |
| | GAAGAgCCCC | CAGGGcCATc | CAC TGGTCTT | GcCgtgCCTc | CGTCCCTTGG | GGGCGCGCTG | 660 |
| | cAACAgGCTT | TGcCTcAGCG | TCGcCGCGCG | ACTGcTTCGC | AgAGACgACA | GCGTcTGCAT | 720 |
| 40 | cAgCgACgCG | CCCCG | | | | | |

1019UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| 45 | GATCGCAGAT | TCATCATCGC | TGTTATACca | gGCTCTATCT | TCCTCGAGGT | CCTCGGGACC | 60 |
| | AAACCGGGCG | CTCTCTTGTT | TGCCAAGAGG | TGCAGGACCC | TCGGCGCGAT | CCTCGGCCAG | 120 |
| | CAGAGTGGCA | ATCTGGTC TT | CATCCGCTAT | CGCTGTcAGC | TTAGGCACAA | AAGCCAGTTT | 180 |
| | TTCCGTTTTG | TGCGCGTGAT | CATCCTGCTC | GAGCGTGCTC | TTCTGATCTC | TGCGACCCCTC | 240 |
| | TGCAAACTCT | TTGAGCTGCC | TTGCTGCTGC | CTTGTCAGT | CGCTTAAATC | TCAGCGGTTT | 300 |
| | CTGTTTCTGG | CCACCGCTCC | CcAAGCTCTG | GTCCGGCTCC | AGTGCTGTTT | CCAGTTCGTC | 360 |
| | GTCCGAATCT | TGGAAGCTCA | gCGCGACCAA | GTTTCTGGAT | GTGTTTCCCT | TCACCGGCTC | 420 |
| | CCCGTCAAGG | ACAGCCTTCA | CCGTGGTGTt | TGTGCGCTCC | TCCTGCGTAC | TcCGCAGGGA | 480 |
| 50 | TACTAGCAGC | TcATGCAGGA | ACTTCTCctC | CCCTTAAACT | TGCCAAGCGC | CATGCAgCTC | 540 |
| | TTAgTGAAC | TCACTGGATC | GTATGCATGC | ACGCGCGCTA | TATTGCATAT | CGGCTGcACA | 600 |
| | AACTTTCTGT | GAcATTGGAT | gCGGATGTTG | GTGGATCACT | CCTTcAGCCG | GGGtCATCGT | 660 |
| | CTTAgCTCCT | ACCGTACTTG | cTcTCTcAgA | TgCatGATGt | GTAcCATcGc | ATcTTcAGcT | 720 |
| 55 | tGAcAGACTT | CCATATACGt | | | | | |

1020RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCGTTTCCT | GTTTCTGCGG | GCAAAGTTCA | GAATTGACCT | AGTGCCAGAC | ATGACAGTAT | 60 |
| | CGTTCAAAC | CCTCGGAGAG | TTAGCCTTGG | ATATCCACCA | TGAAGACAAA | AACCAGAGAC | 120 |
| 5 | CAACaGCGGA | TCCTACCAAA | ATGGcCAGAA | TACCGAAAAA | CCAGTGCAAT | TCTCCGGTTG | 180 |
| | CTTCACCTGG | GACAGTGACG | TTCATCCCAA | ATAGACCCGT | AACAAGATTG | AAAGGAACTA | 240 |
| | ACATTGTTCC | AATCATAGTG | ACCTTTCCCA | ACaTTTCaGT | AACaCGATTG | TTACACCGGA | 300 |
| | AGGACtCAAC | TTGCAATTGT | GCCAAGTAGT | TACCAtGTGA | ACGGGAGAAA | ATCTTCTCAT | 360 |
| | agGACAgTAA | aTTTTGAAAC | aTCGGGAGGA | CaTGGTCCTG | AATATCTCCC | AAATAGAGCG | 420 |
| | CtATATCAgC | TctTGGTTgA | gTGCGCTGGA | CaTGATGAtG | TTGTATGTTC | GAGCCTAgCC | 480 |
| 10 | TGGCagAcAg | AgGGTcgTgT | cCGCTAgCCT | GCAAgTTCgC | aaTGTTTaTC | tCGAGGT | |

1020UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCAGCAC | GTGCCCTTCG | TGTACGCCTG | CTTGGACATG | GTGTGCGACG | ACCGTGTGTC | 60 |
| | GCATTTCTTA | CACGTGAAAG | CAATCATCAT | CATCGGCTTG | TCCACCTTTA | TAGACCCGAT | 120 |
| | ATGCCGAAAC | TCATCTGCAA | TAgGCGGTTT | CTGGCTGTTT | TGCAGCTGCG | GCGAACCCTG | 180 |
| | GTGGAACCGA | TGAgCTACCA | AATGCCCCCC | AAACACCCGA | CCCAGCACGT | ACTGCATGCA | 240 |
| | GTTACCGCTT | GGCGCGAGTA | AACCAGCAAT | CCTGAGAgGC | CCCATCGAAC | GTCTAAGCAT | 300 |
| | TTTAAACAGT | TATACGTaGT | CAGCGGTTTT | CCTAAAACAG | GACATGAgAg | TGCGTCGAAA | 360 |
| 20 | GAAgGcGTCA | TCTCAAATTT | TTCAACTTTA | GAAgCGCTGC | CCGAAAAAgC | ACCGTCaCCA | 420 |
| | TTTATCTATT | ACAAGATGAA | CAgTTAGTGG | TGCCGGCaAT | TGTGTcAGAt | ATATgTcTCT | 480 |
| | GGACATGGAT | ACAAGACACT | CTCgCCaCaG | AAgGAGCAGG | AgATAgCaTC | gAAAACTCTT | 540 |
| | CAGaAGGCTG | AgCTGGcTCA | gAT | | | | |

1021I2

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|----|------------|------------|------------|-------------|------------|------------|-----|
| 25 | GATCTGCGCC | GGATGGCTGC | GAGTTGAGCG | CGGCGAAGAT | GTGTGACTCC | TGCAGAAAAC | 60 |
| | GCTGGAGCTC | GATGTCCTGT | TCCAGCAGCT | GC'TTCTCGTC | GCGGTGCGCC | GCGGCAGATT | 120 |
| | TCGGCGCGGG | CTCGGTCTCT | AGGCCCGGCG | CCTTGCCGCT | GCGGATGCGG | CGCAGTTCTC | 180 |
| 30 | GTGGAGAAGG | CCCCTGTAG | GCATCTGACG | GCGCGCGGAA | CGAGATCAAG | CGCGGCGTAT | 240 |
| | GGGCCGCTTC | GTGCTCGGAG | CTGGCTGAGG | CGCCGTCCAT | TTCCGACTGC | TGCTCGGATT | 300 |
| | CAGACTGTCC | GGAGCGCGCG | TCGCCCTCGC | TCTCCGGGTC | ACTGTGCTC | TCCGAGGCGC | 360 |
| | TGGTGCTTGT | GTCGCTGCTT | TGTGCAGCAC | GGGTCTTGTC | TACATATCCC | ATATCCTCTA | 420 |
| | GGGAGCCAAA | CTGGGCCCTC | AAGGCCCTCC | CCTGGGNCCC | GACNTGCTTG | NATTTATCTT | 480 |
| | CAATTGTGCG | TCATCCNNGG | GGTTCTTTGG | GCCCCANGAA | GTNTNTNANC | AGGAANCCCT | 540 |
| 35 | AGNANNANGG | TTTTCAAATT | CC | | | | |

1021I1

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 40 | GATCTCACCC | TGGCGACCAT | CGACAACCCT | GCATACGCCG | GCGGTGAGGT | CATCGGCAAG | 60 |
| | GCCCCGTGCCC | GCACACTCGA | GATGCGCCTC | AATGCCCTGT | CCGCTACCAA | TGGCGCGGCA | 120 |
| | CGAACCCCTCG | AAACCGTGCC | TATGAACATA | CGCAAAGGCA | TGGTTTCCAA | GCACCGCAGT | 180 |
| | CGCATCCGGG | AGCACGAGCA | GCTGGCCCCG | GACTCCGGCA | CCGTCTCTGC | CAAGGTCCGT | 240 |
| | CGCGGAGAGT | TCCGGAAGAT | AGACGCAACC | TACAAAAAAG | ACATCGAGCG | TCGCATTGGC | 300 |
| | ACGACCATCA | AGGCTGCAGA | CCGTGCCCGC | AAGAAACACC | GCGATC | | |

1021RP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCCTCGAG | TTTGTGCGCG | GCGGGTCCCG | CTCATTTACC | TAATCCTGTC | TATAGTAAAC | 60 |
| | ACGTGTGTTGT | ATCTACATAG | CGCACCTGTT | GTAACCTTACG | CTGCACGCAT | GCGCGGGCGC | 120 |
| 5 | ACGTCCCCCA | CCAGCGCCCG | GTAGAACGCC | TGGCCCGCGC | GCCGCCCGCC | CAGCATGCAC | 180 |
| | AGGCGCAGCC | ACGGTTTCAT | CGTGATCAGC | AGGCCAGTCC | ACAGCGGGCC | CTGCACCAGC | 240 |
| | GGGATCAGCA | GGACGTCCCG | CACCACCACC | TTGGCGACGA | CCAGTGCGCT | GATCCCCGTC | 300 |
| | TCGCCGTCCG | CCGTGCGCTC | GCCCTCCTTC | TGTGCCCGCA | GGTGTGCGTG | GCGCGCGCTT | 360 |
| | TCCTTCGCCA | GCGCTGCGCG | GAACGTCTTT | TTCGAACCTG | ACGTGCGGTA | TCGTTATTGC | 420 |
| | TTGGGGTCCA | TTGGAACGGC | TGTTCCGGGT | CAGAGGGAGG | ATTCTGCGC | TGGTTTGGTT | 480 |
| 10 | TTTACGAAGA | CGACCCTCGG | TGAGAATGTC | AGTTTGGCCA | CTNGGCAGCC | CCAGGAAGGA | 540 |
| | CCNGAATTTC | AAACCACCTG | AGTNGGGCGN | CGNGTAAAA | ACGCTAAGTT | AGTGCNNTGC | 600 |
| | ANACCCNCCT | C | | | | | |

1021UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCGGTG | TTTCTTGCGG | GCACGGTCTG | CAGCCTTGAT | GGTCGTGCCA | ATGCGACGCT | 60 |
| | CGATGTCTTT | TTTGTAGGTT | GCGTCTATCT | TCCGGAACTC | TCCCGGACGG | ACCTTGCGCA | 120 |
| | GGACGGTGCC | GGAGTCCCGG | GCCAGCTGCT | CGTGCTCCCG | GATGCGACTG | CGGTGCTTGG | 180 |
| | AAACCATGCC | TTTGCGTATG | TTCATAGGCA | CGGTTTCGAG | GGTTCGTGCC | GCGCCATTGG | 240 |
| 20 | TAGCGGACAG | GGCATTGAGG | CGCATCTCGA | GTGTGCGGGC | ACGGGCCCTTG | CCGATGACCT | 300 |
| | CACCGCCGGC | GTATGCAGGG | TTGTGATGG | TGCGCAGGGT | GAGATC | | |

1022RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 25 | ANNNNNGNVN | NNNANGGTGG | GGCGTGGTNG | AaTAGTGGGT | CttTCTGcCG | GGGTCTGTGC | 60 |
| | AGAAAACGAG | ATTCTGGGGA | GTATCTGAAA | TtCTTTGTG | CGCCGAGCCG | tCTGGGTCTG | 120 |
| | CGTCAAGCGA | CAGCGAGTTt | GCGACAGGAA | CTGAAGCTAA | TTTCGTTGCT | GGAGGTGTTT | 180 |
| | TGGGGCTTCG | CGTTTtCAGC | CTTTCAGGAA | ATCTAGAGGG | GCTGTGTGCT | TTGAGGCTGA | 240 |
| | AATCAGGGGA | ATAGCCTGAA | TTTGCGAGCG | TGAATTGAGC | GGTTATATGG | AACTGTGGTA | 300 |
| 30 | CATCGNCACA | CTGTaCCAGG | AGGACAGCGA | ATATCTGACA | GTAGGGcGTC | CTtCGtAAGA | 360 |
| | ACACAGtGTA | TCGCGTgAGA | TAGGTGTtGA | TTGAGTCTAG | CGTgCTAGGT | ACTCTTtAAC | 420 |
| | TTtCAGtCGG | tGTtltltt | | | | | |

1022UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| 35 | GATCCAGCAG | ACGTTTAAAT | CACCGATTTT | TTCCGTAAACA | TTCAAAATAT | AATTCTCGAT | 60 |
| | GACAGTGAGA | TAGATGGTGA | AACTCCAGCT | GGACTTACGG | AATCTGGCCG | GACTCGCAAT | 120 |
| | CTGCTAGAAT | TCGCAAAAGC | GAAATTTTTT | GGCANTGTAG | ACGCAGAGAC | TAATGGCACG | 180 |
| | CATAAAAACG | TGATTCCAAG | CTATCCAGTG | GTAAATGAGG | ATTTACTAAG | TGGGGNANCA | 240 |
| | AATGCATCCA | CAAACAAAAT | GATAAAATTG | TGGGGGATTA | TCATCTTCCt | GGcACTAACG | 300 |
| 40 | TCATTAATGA | TGAAGTACGC | CAACACTGAA | AACATATCGG | GTAGTCGAGc | ACTATTATgT | 360 |
| | TTCTCTTAGA | AAAATGCTTC | AtGCTTCATG | GAATTAAGGc | GGcaACAAgT | GCAAGGTAA | 420 |
| | GAACGGaaTT | TTaCTATaGG | CGCGAAATTT | GtaTaTaTTa | T | | |

102312

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GTCGAGGGAA | GTAACCAATA | TATTCACGAG | GGCTACCTAT | GGCATCAATG | AGACGTTCCG | 60 |
| | AACCAAAGAT | CGTCGGGTCC | TGGGTGATAG | CGCTTCTGTG | TGGGGTCTTG | TGTGCAAGCG | 120 |
| 5 | ACAACCTTCA | TACACGCGAT | ACTTCCTGGT | TAGTGTTAAT | CTCAACAGCG | GTGAAGTTAT | 180 |
| | CTTCGATGAC | TTCAAAGAGG | AGCGTTTCT | GACGAGGCT | TTGGAGACGC | GAATAAAATA | 240 |
| | CACAAACCCG | AGTGAAGTTG | TGGTCGGAGA | TGGCCTTGGC | TCAGAAATCG | AAAAGGTGTT | 300 |
| | TCATACTTCA | GATTCCGATA | TCACTCTAAA | TAGGATCGAG | CTCGTCCGGT | TGTATGAAGA | 360 |
| | AATCTTCACT | GAGCCGCAAC | CAGCCTTTAG | GGGCAACGTT | CCTCTGCAAA | CAGCGCTCAT | 420 |
| | GCTGGTGCAT | GGCTACCTAA | CAAACCTCAA | AAATGAGAGT | TTACTCTTCT | TCAAGGAAAA | 480 |
| 10 | CTTTAAACCA | TTCTGCTCGA | AGACGCACAT | GATTCTTCCC | TTCTAGCGCT | ATTGGAAGCT | 540 |
| | TAGATATTTT | GGGGACAGTA | CAGATAGGAG | CAGTAAAGGT | CCCCTGTTAT | GGGTNTTAGG | 600 |
| | TCAANCTAGA | ANAAC TAGGG | TTAAGGACTT | GGAGGACTGG | NTTGAAAGGC | CTTNTAATTT | 660 |
| | GGTCAAGTCA | ANAGAGTTGN | GGNNGCCAAN | GATTCAACNAG | GNGGGNATTN | TCATGGCTCG | 720 |
| | GAATT | | | | | | |

102311

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GTCGAGAAAA | CAGAGCTTGA | GGTCCCACTG | TTCTTTTTC | CTGCGGATGT | CTCTGTCTGC | 60 |
| | TCCACGACCC | CCACTTTTCAG | ATTGTGGTGC | ATCAAGCGCT | GCAAGTGGAC | TTCGAGACGG | 120 |
| 20 | GTGTCTGGGA | TGGTGCAGTA | CGCAAACCTC | TTGTGCTTGT | GATCAGCGGG | GTCTGTCTCG | 180 |
| | TGTACCGTAA | GCTTGCCGGG | CACCAGCTTG | ATC | | | |

1023RP

| | | | | | | | |
|----|------------|-------------|-------------|------------|------------|------------|-----|
| | TGCCCGGCAA | GCTTACGGTA | CACGAGACAG | ACCCCGCTGA | TCACAAGCAC | AAGAAGTTTG | 60 |
| | NGTACTGCAC | CATCCAGAC | ACCCGTCTCG | AAGTCCACTT | GCAGCGCTTG | ATGCACCACA | 120 |
| | ATCTGAAAGT | GGGGTTCGTG | GAGCAGACAG | AGACATCCGC | AGTGAAAAAG | AACAGTGGGA | 180 |
| | CCTCAAGCTC | TGTTTTCTCG | ACGCTAGGGA | TAACAGGGTA | ATACAGATAT | CAGATCTAAG | 240 |
| | CTTGCCCTCG | CCCCGCCGGG | TCACCCGGCC | AGCGACATGG | AGGCCAGAA | TACCTCTCTT | 300 |
| | GACAGTCTTG | ACGTGCGCAG | CTCAGGGGCA | TGATGTGACT | GTGCCCCCGT | ACATTTAGCC | 360 |
| 30 | CATACATCCC | CATGTATAAT | CATTTCATC | CATACATTTT | GGATGGNCGC | ACGGCGCGAA | 420 |
| | GCAAAAATTA | CGGGTCCCTCG | CTGNAGACCT | GCGAGCAGGG | AAACGCTCCC | CTCACAGACG | 480 |
| | CGTTNGATTG | TTCCCCACGG | CGNGCCCN TG | TNGAGAATNT | AAAGGTTAGG | ATTNGCAATG | 540 |
| | AGGTNCTCCT | TTCAANTNCT | CCCTTTTNA | ATCNTTGTNG | GTCAAGTCNT | CANATCAAAT | 600 |
| | TCCCAACATT | AACACCNTGG | TTAGGGAAGT | TCANNTTTCN | GGGGCCNNGA | TTANTTCN | |

1023UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTCAAAC | CTGAGAATAT | TCTACTTCAT | CAATCTGGTC | ACGTTATGCT | TTCTGATTTT | 60 |
| | GACCTGTGAG | TACAGGCAAA | AGGAACCAGA | AATCCTCAGG | TTAAGGGAAA | TGCCAGTCT | 120 |
| 40 | TCGCTTGTCG | ACACAAAAGT | TTGTTCTGAT | GGCTTCAGGA | CTAATTCCTT | TGTTGGAACG | 180 |
| | GAAGAGTACA | TTGCACCTGA | GGTCATCAGG | GGAAATGGCC | ATACAGCATC | CGTGGATTGG | 240 |
| | TGGACATTGG | GTATACTTAC | TTACGAAATG | CTCTTTGGGT | TCACTCCTTT | CAAGGGCGAC | 300 |
| | AACACAAATC | AAACGTTCTC | CAATATTTTG | GAAGAATGAC | GTTTATTTCC | CAAACAATAA | 360 |
| | CGATATATCT | CGCACTTGCA | AGGACTTGGA | TTAAAAAGTT | ATTGGGTCAA | GAAAGAGAGT | 420 |
| | AAGCGACTTG | GTCAAAGTTT | GGCGCCAAGT | GAGATTAAAA | AAGCATCCCT | TTCTTTTAAAG | 480 |
| 45 | ACCCGTCCAG | TGGGCGGTTA | TTGGAGGGAA | CCAGGAACCT | CCCTTTTATC | CCCGTATTGA | 540 |
| | CGGGAGATGG | GTACGACTTT | GGAAAGNTAT | CACATTAAAG | GATGTTAAAA | AGGCCGGGAA | 600 |
| | TCCGGCCAC | CCGGGTTAGT | CTCATATTCA | AAGGCGNGGT | TCNNCN | | |

1024RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | ATNNNNNGNN | CANNNGTGGG | GCGGAGCGAN | TAGTGGGTCA | GCANGGTGCG | CTCGGTGTgT | 60 |
| | GCGCAGCCGT | TGGcATGCTC | GCGGATCCTC | GCGTCCAATA | TACCAGAATG | CATCATGCTT | 120 |
| 5 | CGCTGGCTCT | ATATTGACCT | GGTGGCCATA | TATGAAAAGG | CGGTCCTTGA | AGTTTtGTAG | 180 |
| | AAACTCGTCT | GCCTGAGATG | GCGTAGCGAA | CCCAAGGAAG | CATTTATTGC | GGCATTTACG | 240 |
| | AGGCCTGGAA | ACACTAACTA | CCCCGTACTT | CTCATCTAGC | AGTGAAGGG | GCACGTCTGC | 300 |
| | GGAAGGAAGC | GGCTCTGGCA | ACGTTTTCTC | CgCCGATAGA | GCATATGGGT | TATCCTtGTT | 360 |
| | GATGGACTTC | AACAGTTGTC | GAGCATATTC | TATCCTGGAG | GCATTTGACG | CTGGCAAATT | 420 |
| | TGACAGGTAG | ACACTGgATG | GCGGcGTTAG | tATCGAAATCG | ACAGcAGtAT | AGtGACCAGc | 480 |
| 10 | ATTACACATAC | GACcGGACGC | ATgATaTTAC | TtCCTTGNGN | ACTTAANTTN | CCCAATCTTN | 540 |
| | NGCCAGATTN | ATTTTCG | | | | | |

1024UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCTAAATT | CCCACGCCGC | TGCGGCGGTT | TCTCTGCGAG | TCTTTGcCGT | GAAGCACGAC | 60 |
| | ATAATCGAGC | CCAAACACAG | CAAGATCGCA | GAGAATCAAG | CTTATGTAAG | TCTCAGTGA | 120 |
| | CTCGANGCGT | GCAGAACGGT | ACGGGTGTGC | ACTGCAGGTG | CCACGCCATG | TCTCACATGG | 180 |
| | TGTaACACG | GcGCGACCGC | GGTTCGGAAT | ATCAAACAAA | CATATgTTTG | COGCAAAAGG | 240 |
| | GACTGGTTCC | CGCAGCTGcC | ACCCgCAGGG | GCACAgcGCG | GcAATGCAGA | GTCGCGTTAG | 300 |
| 20 | GGtGCCgTCG | CcCCGATGGG | GCAGtGTGCG | CGCC | | | |

1025RP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| 25 | GATCAGCCCG | TTGCCGCCGC | CGCCGTTGTA | CTTCTGGTTC | TGGATGGACC | COGGCGTGAT | 60 |
| | GGCGCTCTCG | TTGCCGTACT | CGTCGCTGCT | GCGCAAGTCG | CACCTTCAGCG | CCACTAGCAC | 120 |
| | CAGCTTCACG | CCCTCGCAGT | GGTCCGCAAT | TTCGCTCAAC | CACCTGTCTT | TGACGTTCTC | 180 |
| | CAGCGAGTCC | CGCGAGTCCA | CCGAGAAACA | CAGCATAATC | GTGTGTGTGT | CCGAGTACGA | 240 |
| | CAGCGATCGC | AACCGGTCAA | ACTCCTCCTG | CCCAGCAGTG | TCCCACAGGC | TCAgCGTGAT | 300 |
| | GTGCTGGTTG | TCCACGAAGA | TGTCATGGAT | GTAGTTTTCG | AATACCGTGG | GCTCGTACAC | 360 |
| | CTTCGGAAAG | TACCTCGCGT | GAACACGTTT | AACAGCGACg | TCTTCCCGCA | AGCACCGTCT | 420 |
| 30 | CCGAgGATGA | CGATCTTGCG | CTCGATAgGA | TGCTTCGACG | AcGAgCTCGA | CCACACAGAg | 480 |
| | GCATCTTTGT | TTTGTAgAgC | TGGTGGTGGG | AGCTcCtCTG | ATGCCAGTCC | ACGCTACaAA | 540 |
| | TACAGCGTTT | GAgAcgAAAT | AcTAgCTGCT | ACTGTCTTtT | CTCTCTGACG | AgGTGCACGG | 600 |
| | cGCATCCCCG | TTATAACTGT | C | | | | |

1025UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCCCCATG | AGAATGAGCG | CATCTTGGAT | ATGGCGGGCG | CACCCGGTGG | TAAAACCACC | 60 |
| | TATATATCTG | CCATGATGAA | GAACACTGGT | TGTGTCTTTG | CAAATGACGC | CAACAAGGCA | 120 |
| | AGAACGAAGT | CCTTGATTGC | GAATATTAC | CGTCTCGGCT | GCACGAATAC | AATTGTCTGC | 180 |
| 40 | AAC TACGACG | CCCGCGAATT | CCCTAAGGTT | ATCGGTGGAT | TTGACAGAAT | TCTACTTGAT | 240 |
| | GCCCCTTGCT | CAGGTACAGG | TGTTATCGGC | AAAGATCAAT | CTGTGAAAGT | AAATCGTACT | 300 |
| | GAGAAGGACT | TTATGCAAAT | TCCACACCTG | CAAAAGCAAC | TGATATTATC | TGCAATTGAC | 360 |
| | TCTGTTGACA | GCAACTCCaA | GCACGGcGgT | GTCATTGTCT | ACTCTACTTG | TTCCGTTGCG | 420 |
| | GTTGAAGAAA | ACgAgGCCGT | GGTCGAATAC | gCCTACGGAA | gAgACCTAaT | GTCAgCTGTT | 480 |
| 45 | GAAACCGGCT | gGcTATTGGT | AAGGAAGGCT | CaCTAgCTaC | GA | | |

1026RP

| | | | | | | | |
|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCCAATTG | CTGGTCATAC | AtaCGCATTa | ACAGATTTTA | TTACTATGTA | TCCAACGTGA | 60 |
| | ATTGCTaTAT | GTACCTTATT | ATCGGTTTCA | TAAAgATGCT | TTAATTTCTT | ATTCTGAATC | 120 |
| 5 | GGAGTCgTtT | GACCGGCGCT | TAgaCTGGTT | ATGCCTCtTG | CCATCGTTTT | TCTCGAAAAT | 180 |
| | GAAAATTCTA | GCTTCACGCT | CgGCTGCAGG | CTTAgtTCGTa | TCCTGCTCAT | TGTTAGTTCT | 240 |
| | CCTAtGACgG | TATCCtGGGA | AgGTATCCCA | cTGGAAAtTTg | TgCgACCTCT | CAAGCTTtaA | 300 |
| | aCCATgCTCC | TTGGCaAGTA | cCTtAgGCTG | CCaAGAAATCg | TaTgGATCAC | CGGCAAATAg | 360 |
| | GGACAAAATG | ATCCtCCCCA | TATCATCAGA | TGATtGtctCT | TtctCCtACT | tCATATCCGG | 420 |
| 10 | AAAGATGGGC | AACAACtACC | ttCTTATTCTG | cCAGcTTGAT | AGttGtcttAC | AGcTATCAAA | 480 |
| | AATATCCCga | TaGAGcTCTG | agcTCTCT | | | | |

1026UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCTAGCAG | ACTAGACTCT | CTATCGCATC | AAGTTTCTGT | TTTCAAGTCT | GGGTTTCTTG | 60 |
| | AGCAACCTGG | TGCCCCtATA | CCTGTGTCAG | ACGCACAGCG | AAGCAGACGT | CTATCGACGA | 120 |
| | TGTGAACTT | ACAGACGAAA | AAACAGCGCC | CGCCAGCTAT | TCCAGAGGCA | GACGTATCAC | 180 |
| | TCCAGGCTAT | CAAGAAGCGG | CGCATGTCCG | CCAGGTCTTC | TACCTCCCGT | AAGTCGGGTT | 240 |
| | CTGCCACGCG | TATTAGTGT | GTGCCACGGG | CCGCAGCTTC | AGAGTCATAT | GTGGTTCCAC | 300 |
| | CTGCTGGTGC | TCCTCTGAAG | AAAGAGTCTG | CGGATGACTT | ATTTCAAACG | ACTGCTTCCT | 360 |
| 20 | TTTATGAACG | TTACACTATT | TCCACACTGA | AAGAAATACC | GAAAAACATT | GCAGATGAGG | 420 |
| | ActCTGCcCG | ATATACCGTt | aACGAgGATA | GCaTCaCTAT | GGCTGAcCTT | TGCaAACCTC | 480 |
| | TATtCcCGAT | AGGTGAAGTa | tCTGATAATT | TCACCGGGCG | AAAGAAGcTG | CAAAAGCCAA | 540 |
| | GATGGAAGCT | CGGAAGAAGC | GCCGcGAAcT | CCGACAGATg | GcTaAgCGTc | AATC | |

1027RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | CATATCGACG | TACTCTGGCG | TTTGTCTCTC | TTCTGTCAGCA | GGAACGCCGT | CCGGCATAGG | 60 |
| | CTTACTGACT | TtCACAGACA | TGATTCTTTt | GCTGCAAGTA | AAGTATATTA | ATGGCGCTGT | 120 |
| | CAAAAATGGT | AATAGTACGG | AAAGAGCAAC | CTGAGAAGCG | TCCAGGGCCT | GCGATAAGCC | 180 |
| 30 | GTTTTTACCT | AGAGCAGTGG | ATACAGCTAA | TGTtGGAATC | AATGCAATGG | CTCGTGTGAG | 240 |
| | AATTCTCCGT | TTCCATGGGG | TTATAGTCCA | GCGTaTaTGG | CCTCCGCATA | CTATTTGTCC | 300 |
| | AGCTATGGTA | CAGACAATNC | CTGCCGATTG | GCCCCGAGATT | AAGAGTGCGA | GCATGAATAT | 360 |
| | GGTACCTGCC | GCTGGTGGCA | AAGTGTtGGA | TAATAGGTGG | tGTATCGtGT | ATAGATCCgC | 420 |
| | ATCGATGGcT | TCCGGGGTAT | CATACAGtGc | GcTA | | | |

1027UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAACGAG | TAAAAATGCC | AGGTGTtTCC | GTTAGGTACG | TGTCATGAGT | GCTAGTTTAT | 60 |
| | GGTTTGGTAC | GGCTGCTGGG | GGGCGCTTTC | TGGGAGGTTC | CAGCGCTCAT | ACGTTATGTG | 120 |
| | AAGATGCTTC | GATCGNGAGG | GTTGCGAGAA | GGAATGGGAA | TGTGCCAAGC | AGGACTTGGT | 180 |
| 40 | GATTGGTTCC | AGAACGTGCG | TGACTGTGTC | AAATATGAAA | TCATTGGGCG | AAACTTAGCT | 240 |
| | TGCTACGGAG | TCCAGCATGC | AGAACGTGCG | GCCGAAGCTA | GCTGAGGCTC | GATGAGACGG | 300 |
| | TGGCGGAAAT | CTTTCGATCC | CAGGCCAAAG | CAGACGTACC | TACCAGCTTT | TAATGTGCCC | 360 |
| | GCCTACTAAC | ATGATATACA | GAGACGTtCC | AGCTCAAGAG | TTCATCAACG | CTTACGCTTC | 420 |
| | TTTTCTTGCA | AAGACAAGGT | AAGTTG | | | | |

1028RP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCATGCAA | ACGGAGAGAA | GGAGAAGAAG | TCTAAGAAAG | AGGGCACTAA | AGAGAAGAAA | 60 |
| | GCCaAAAAGC | AGGAGAAAAA | GGAAC TGAGA | AACATCATTG | AGGAGTCCGT | TGAGCAAAAT | 120 |
| 5 | AAGCTAGCAC | TGATAGAAAA | GGTGGAGGAA | GAAAGAGGCG | GCACGAAGGA | GAAAGACCTT | 180 |
| | GACATCaAGT | TCAGGTaTCG | GGAAGTTTCG | CCaGAAAGTT | TTGGCTTGAC | CACCCGTGAG | 240 |
| | ATATTTATGG | CTGACGACGC | TGCCTTGAAT | GAGTaTATTG | GCCTCAAGAA | ATTTGCACCA | 300 |
| | TATAGAGCAA | AGGAGTTGCG | CaACAAAGAT | AAAAGGAAGG | TCaTGAAGGC | TAAGCGTCTA | 360 |
| | AAAGAATGGA | gGAAAAAgGT | GTTCaATAAC | GAAAA TGGGT | TGGCCGATGA | gGATgAgGcC | 420 |
| | CTTGATACCC | AgGCgGCTCC | TAAAAAGGAg | AAAAGCcgTT | CTAAGCaCAA | GACAAGTAAg | 480 |
| 10 | TAATATTACC | GTCTTTATGT | aCgtTTCtGCC | gTAATTATAT | TTTGTATaC | aTaTaTATTA | 540 |
| | ATTTAAACTT | T | | | | | |

1028UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| 15 | GATCCGCGCC | CGGCACAGGC | CTGGCAGCAC | CCATCGCCGC | ATGCTGTGCC | TAAGATGTCT | 60 |
| | CAGAATTACG | CGGCCGCTCA | GGCGGGCGCG | AGCCCCCTCA | TGCTTTTGCG | CCAGGAAGCC | 120 |
| | TTCCACGAGC | TGGGCGACTC | GCCTGGCATG | TCAATGTACA | TGTCGCCCCA | GACCCATAGG | 180 |
| | CTCAAGGGCA | ATGGCGGGTA | CCTGTTGCCG | ACCGCTTCTA | TCTCCGACCC | TTCCGGTGCTC | 240 |
| | GGTGACACCG | GCCGCCCTCC | GTCTTCTCAG | TCATTGACAT | CGCACCTTCT | GCGTACCCCG | 300 |
| | AACTTTAAAC | TGAATGACTA | TGTGCATAAC | CTTTTCAGCC | CCTCACCAAG | AATAGACCCG | 360 |
| 20 | CCAGGTaGCT | CTGGGAATAT | ATAgGGcCTC | GCACACATTT | AGCGCACAGT | ATACTAgCTA | 420 |
| | ATCCTACATT | CTCTGTCTATA | gTAATGCCTA | TGTCAGCACA | CCTGCCGTAT | AATTTCTATTA | 480 |
| | TTTCTGTGTT | CATAAATGCT | GACaTATGTc | ACGTGGCTGG | ATCagCACgT | gATGGCAAAA | 540 |
| | TTCTTATGAA | TGAgCCTGTT | CATCTCGTCA | gACAATACAT | TATACACgCa | TCCaTCTCTC | 600 |
| | GGTATGATAC | GGACTCTCTC | ACaCTGGA | | | | |

1029RP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCGTAACA | CTCTGGAGAA | GTGGAAAGAG | CTAGTCCCTC | CGAGCTGTAA | ACGATGCATG | 60 |
| | GATGCGCTTC | ATCACAACCG | GTACGACACC | GCCGAGTTTC | CGGAGCACAC | GCTCGAGGAT | 120 |
| 30 | GTGGGAAAAG | GGGTTCCGCG | CGATGCAGTG | GTATACCATA | TTGCCCCACT | GTGGCAATTT | 180 |
| | CCGATGGGAC | TGGATCGGCG | CGTGCTGCAG | AGCTCAAAGA | AGGTTTGTGT | GCTATTCTCG | 240 |
| | AAGATCGATA | TGGTGGTGCA | GAGACCGTCG | CACATGCCGC | AGGACGTAGG | TGCATTTTCT | 300 |
| | CAGAGCTTGC | TTTATCATGA | CCTGCATGTC | AAGATCACGA | ACTTCCGCTT | CTTTTCTGCG | 360 |
| | CTGAAGCAAT | GGAACATCCA | GACGGTGCGG | AACGCTCTGA | GTAAAGAAAAG | TTACTTACTT | 420 |
| | GGCGGGCCAA | ACGCGGGCAA | GTCTGTCATTG | ATCAATGCCC | TGATGAAGAC | TGTTGTTTAC | 480 |
| 35 | GAAAGTCGGC | GTCTCGTATC | CTCAAAGCAG | TCCTCTGCGA | CCCCTGCGCA | CCTGCCTCCA | 540 |
| | AAAGCGCATT | TGGACATCCA | TTCTGCGGGT | GTGAGCACAA | TACCGAACTT | CACTCGCCAA | 600 |
| | CCCAGCAATA | CGATA TAAAG | GGCAAGATCT | CCACGATTTT | CAGGCTACCG | CACAT | |

1029UP

| | | | | | | | |
|----|------------|-------------|------------|-------------|------------|-------------|-----|
| 40 | GATCTCGTGG | TGTTTTGCAA | CTTGGTGCGT | GACGCGATAT | CTCAGGCTTT | GCGTGCTGAG | 60 |
| | CATGATTATG | AGGTGAACAA | GATGCGCCGC | GCGCTCTCCT | TACTCCAAA | GCTGTATATT | 120 |
| | AGGGATAGAA | GGACCAATTT | CCTCTCCGCG | GCCAAGGGGG | ACGACTTCTG | GGTCATTGCG | 180 |
| | GATACCACCG | TGAAAAACTG | CGACATTACA | TCTCTCCTTC | TTTACTTTGA | TGAGTTCTAC | 240 |
| 45 | AGAGAACAGT | TGGATTTGTT | CCTGGCGCAG | GGCCGTGCTC | GGCACGAGGT | CCCCAGCGGC | 300 |
| | GATCTCGTAG | CGTGGGAAAA | CGATATAAAA | GTAAAGTTCT | TTAGCGAGAA | GTCAATCGAAG | 360 |
| | CACGCTTCGT | GGGGTTCCCT | TGCCCTGCGG | AAATTTCGAAC | TCGTACTGCG | CGCTCCGTTT | 420 |
| | CTGTTGCCCT | TTCCGCGAGCG | GGTCGCCTAC | TTTGAAACGC | TGATACACCA | CGACCGACGG | 480 |
| | CGGTTGCAGG | GACGCCACAC | AGGACCAGCC | TTGCGCCTGC | CCGACCTGTA | CTTCCCGTCC | 540 |
| | TCGCGGCGGC | AGCGTGCGAT | TATCTCCAGG | AACAACATCC | TGGAAGATGC | ATACSAGGCG | 600 |
| 50 | TATTATCCGC | TGGGCGAAGA | CTTTAAGGAC | CAGCTGGC | | | |

1030RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCTTG | TTGCGCAACG | CTTCCCAATC | GATgTCGCTG | AGAAAGGGGT | GGGCGCGGAC | 60 |
| | CTCTGCGCCG | TCGTTGACCG | CACCGAGGCG | GTGCTTGGGA | TTGCGGTTCA | AAAGGCCCTT | 120 |
| 5 | GACAAAGGAG | CGACCTTCCG | GCGATAGCAC | GTCCCTGGGG | AATTTGACCT | TGCCAAACGC | 180 |
| | AATCTTCTGG | TACATCTTCT | GGTTGTCTCT | TGCAAAAAAA | GGCGACCAGC | CACAGCACAT | 240 |
| | CTCGAATATC | AAGACGCCCA | GCGACCAGAA | GTCAACCATT | TTCGTGTAGC | CGGTCTCATC | 300 |
| | GAGCAGCAGC | TCGGGCGCTA | GATACTCGGT | GGTACCGCAG | AACGTATTGG | TGCGATCCTT | 360 |
| | TAGGTCCGCT | TTTGAGAGGC | CGAAGTCACA | TAGTGCAGTA | TTGCCGtTGG | CGTCTAAAAG | 420 |
| | GATGTTTTCT | GGCTTGAGGT | CGCGGTACAC | GATATCATTa | TCGtGAAGGT | ATTCCAACGC | 480 |
| 10 | AAGCACCAAC | TCGGCAATGT | AGAACTTTGC | CCGCTcCTcC | GCGAACCAGC | CTTCTTTCTG | 540 |
| | AAGGTGCCAG | AAAAGCTcAC | CAcCGNTCAG | GAAGTcAGTC | ACCAAGTATA | AGTCTGTGGG | 600 |
| | CGTTTgAAAA | GAAAATTTCa | ACCAaCAATG | AAGGGACaG | ACTTTgAgCA | gTaCgAACgA | 660 |
| | GATGTTgCGC | TCACCAATAg | TATGtGCA | | | | |

1030UP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCGATTCC | CTGAGCATGT | TTTTCCCTAT | GCTGCAGGTT | TTACATGGTG | ACATTGCGGA | 60 |
| | TGCCGAACTA | AAGAACCTTA | TGTCTTTGAA | ACTCTGGAAC | ACTTACGGCG | GAATTCTCTGA | 120 |
| | ACGCTGGCTA | TTCACACTCT | TCTACAAGAA | ACAGCAAGTT | ACCGTAAATG | ATACCGTGCA | 180 |
| 20 | GCTCGAGTGG | TATCCTTTAC | GGCCAGAGTT | TGTAGAATCA | ACCTATTCCC | TTTACAGGGC | 240 |
| | CACATAAGAC | GCAATTTATC | TGAATATCGG | ACGAAGCATC | CTCCAGGCTC | TATCAACGCG | 300 |
| | CTTTAAACCG | AAATGTGGGT | TTGCGGGCAT | ACAAAACGTC | ATAACGGGAG | AGCCACATGA | 360 |
| | TAGGATGGAA | TCGTTCTGTTT | TGGGCGAGAC | CTTAAATAT | CTCTATCTCC | TCTTTGACGT | 420 |
| | ATCCAATGAA | TTGCATACAC | AAAAACGCAC | TAACCAAAATA | TTTAGCACTG | AGGCGCATcC | 480 |
| | ACTGTGGtTG | ACTGCCTCGA | TGAAGGCTCG | CTACGAAAAG | AACAAGTaCT | GTGAAAACGA | 540 |
| 25 | CgTGATATATA | CAGAACTTGC | GTcGcCTACA | gGAGCTTgAC | CAGCTGAAAA | GcCgtGCCAA | 600 |
| | TTCATTCACT | GcAGAGGgAG | cCATGATaCC | AGCTTCAGAT | TTCAAAACAG | AAGACTcCgA | 660 |
| | GGAGtCTTTG | AAGGACCGCG | TTGcAgcGCC | AtaCTaGAGG | CCTACACGTa | GAtaCgACaC | 720 |
| | gTTCGTGGaA | cATGCAGACC | TTTCGCGACA | A | | | |

1031RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTAGTA | ATGATCACGT | GATTGGATTA | CCGCTTGTGC | GTTTTGCTCT | CCGCAAAGCG | 60 |
| | ACATTTACAC | GGGAAAAGCG | GTGAACCTCC | GCCGAAACCC | AAATACTCGT | ACACTATGAC | 120 |
| | TATAGACGAC | AATGTGATG | ACGTGAGCAC | AGTTTAACTC | TAGTGTACAA | TCACGTGCAC | 180 |
| | ATACCTTCTC | TGCCACCCAC | ACATTAACCA | TTTATTTGTG | GTCACGTGAA | ATGAATCGAT | 240 |
| 35 | GCATTTTATA | ACTGCAGGTT | AGTTGAGCCA | TCTCGCCAAC | GATGTCTTGC | GACAGCATTC | 300 |
| | GGGGCACGGC | GCGTCATGAG | TGATTGGAAG | GAGGCACAGG | ACTCCACGGG | GCGTGTTTAC | 360 |
| | TACTATAATT | CGAAGGGGGA | AACGTATGG | AATAAGCCCA | ACGACACGCC | AGTTGAGCTG | 420 |
| | GAACCGCGAC | TCCAAGAATG | TGGCTGGAAA | GTGGCAACGA | CGGAGGACGG | TAACGTGTAC | 480 |
| | TATTACAACA | GGGAAACTGG | CGAAAGCAGG | TGGGAGAAGC | CGGAGTTGGA | GCCAGCCGAG | 540 |
| 40 | GAAGTGCCCC | GGGAAGARGA | CGAACGCGCG | CCGGAGGARG | AGAAGAACGA | GCCGTCCGCT | 600 |
| | GCTGARGAGC | CCGGGGTCCG | GATCGAACTG | CTGCTCAACT | CAAACC | | |

1031UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCANCGAN | CAGCACGGAC | AAATATAACA | GCAGCACGGG | CATTTGTCTA | GTCGGCTGGT | 60 |
| 45 | GYYYTGTC | CACCGTGACG | CTGGCGCTGG | GCTGGAGTGC | AAAAACCGGA | GCCACAAGCG | 120 |
| | TGCGCGTCCG | ACGGGGAAAG | CTGCGATCGT | GGCAGCAGCA | GAGAAATGGT | GCGGGAGTGC | 180 |
| | YAGAGCGGTG | CTGGGAGCGC | GCGGACGCGC | GCACGCTGCG | CGCGGCCCGG | CTGATGCTGG | 240 |
| | GCGCGGCATA | CCGAATCAAG | AAGGCACACG | CGCGGGCGCA | GCTGGCGATG | CAGGTGGCGC | 300 |
| | GGCTGCSCCG | CTGCGGTGAC | GTGCGGTGCG | GCCGCGGCGG | CGTCCCTGCTG | CTGGCKGTAC | 360 |
| 50 | ACCCCGGTCT | GGTGAACTTC | GCGTAC | | | | |

1032RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTTAAC | CTCTGGACTT | CAATCTTCTG | GGTaaaAGCA | CAAGTTTAGA | GATGTATGAT | 60 |
| | CCAAGCACCA | AACTACAGTC | TCGAGACAGC | AAAATAATCC | TACTTATATA | AACTGAACGT | 120 |
| 5 | TGCAATTCTT | TAAAAAATTT | ACTAACTTCG | ATTAATGCGG | CGCCGGTGAG | CGCCTCTGTT | 180 |
| | ATTAGCTGAG | TCATGCTGAG | GGTTTGGCTA | GGAAGCATCC | GCTCTTACTA | CGTATTTACC | 240 |
| | AAGGCACAGG | AAAATGTGGT | GGTATTCCTG | ATTTGCGCGG | CGTTTTGTAC | ATTACTCCAT | 300 |
| | AGCTCATGGT | CAGCAATCCC | GTTCAATGGA | CATTTGCTCA | ATCGTGAGTC | TTCCACTGGA | 360 |
| | CTTGAATCC | CGCAGGGATT | TTCCGGCTCCT | GGCTCAACCA | GGTCGCCCGG | ACACCTACAG | 420 |
| | CCGAAAAAAT | TGCTGCTTGG | ACTAGGTCCG | CTGACGTGGA | CATGCGAGAT | GACTTTAAAG | 480 |
| 10 | TGATACATTA | AAACCAGGGC | TGTATGAAC | CAGCAAAGGT | CTCTTTTATA | CAGTGTGCAT | 540 |
| | ATAATATTTT | GGGCGCTTGC | AATTACCTCA | TGCCAGGTaC | TCGTAAGATT | CGCCGTCCGC | 600 |
| | GAGCGCTGTA | gGtATTCCCT | GCTAATTAAG | tTGTCgATgG | CCTTCTTGAT | AGAGAtaCCt | 660 |
| | TTGCATTTGA | CCGTtGTgAG | AtTCgGCTAT | GCATTGCTCA | CCAAAGTgGC | ATGAGAgACg | 720 |
| | ACCCGTTTGe | TTTCATAATT | CTGaCgATaC | AAGCTTCAGA | ACaATTGCTT | TCTTG | |

1032UP

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|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCCCCAAA | ATAGACTACA | TCTGCCgcaa | gCAGCGCGCC | CTATCTGCAT | TTCTCTTCTt | 60 |
| | GGTGGTTGTC | ATGTGGGTCA | TCACGTTTCAC | CATTAGCATT | CTAAGGGTAG | TGGAACGGGT | 120 |
| | GAGTTCACTT | TCACCCAGAT | AAAAGTTAAC | AGGACAAGTG | AAAAAAAACG | GGGATAAAGG | 180 |
| 20 | CATCAGTTAT | GTAATAAAGA | GCTATACGGC | AATAAACATT | TAAGTAACTA | CCATGGTATC | 240 |
| | TCCAGGGTAT | TACTAGGTTT | CCCTGAAGTT | TCGAATGTGC | CTTCGTTACC | CGGTGTTTAT | 300 |
| | GCAGGCTAGC | GCGACAAGAA | AAATGCGGTC | CCACCCATTC | CACGATTAGC | GGTGGCAAAA | 360 |
| | GTCCTAAAAG | TTAGGCAAAT | AAACACATAA | CCATCCCTCA | AAAAGCGCTT | GAGCAAGGCT | 420 |
| | ATCGGGGGTC | AGAGCAGGTG | TAATATACAT | TAGAAAGTGAG | CGATGAACGA | TAAATTGCCG | 480 |
| | AGAGCAGATG | ACTTGGAAGC | CACTTGGAAC | TTTGTGGAGC | CCGGtATCGG | GCAGATCCtG | 540 |
| 25 | GGCCGGGATG | GGTCGCCCCA | TGCAGGGCGA | GTGCAGAAAC | TGCTGTcCAGC | TGCgATGTaC | 600 |
| | ATGGATGTCT | ACACGGcTAT | CTaCAACTAC | TGCGTCAACA | AGTCGCGGtC | CACCGGGCAT | 660 |
| | TTTCAGtCgG | ACTCGGCGCA | ACGGCAGTCG | AACCAGtCAT | CGAtCCTGGt | CGGAGGGAGA | 720 |

1033RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTGTCG | AACAGGTCGC | CCCCGTCCGC | CAGcTcCATC | GCGATCCATA | GGTACTCACG | 60 |
| | TGACACATTG | CAGTCCAGCA | CCCTCACCAC | ATGTCCGGTG | CCC CGCACCC | GCGTCTGCAG | 120 |
| | CACCACCTGC | CGCGTCAGAT | CCTCGTCCGT | CATCCCTCGC | GCTTTGCAGC | GCTCGACGTG | 180 |
| 35 | CACGAACCTC | ACAGCCACTA | TCGTCTGCCG | GTCTGCGCGC | AGCGAGGCGG | TTTTGACGAA | 240 |
| | CGCGAACGTC | CCCTGCCCAA | TGCTCTCCCC | GAGCTCTAGT | TCCTTAATCT | CCGGCAGGCA | 300 |
| | TTTCAGCCTGC | GACGACTCCA | TAGTAGCCCA | AAGTCGTTGG | ACGGCCTTCC | AGGTGGCCTC | 360 |
| | TAAAGTCTGG | TGATGGTTGG | TTGAAAAGTG | ATGCCCCAAC | AATAGTGTGA | AAAACGGCAA | 420 |
| | AGTGGGCCTT | ACGGGGGGAA | CAAAAACAAGT | GCTAACTACA | CGGAAGCAGG | AATTAATTTG | 480 |
| | GGAAAGTGGC | TTGGAGCACG | GTATAGGAGT | ACCGGAGGTG | GATATGAgTG | TCgAACAGGT | 540 |
| 40 | GTCTGGTGCG | CACGCGTgCg | AAGAACAgtG | GGCACgGTTT | GAACGCAATG | TGGAgGCGCG | 600 |
| | GA | | | | | | |

1033UP

| | | | | | | | |
|----|-------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCCGCGTC | GTCGAAAACA | GGTCCTTGgg | gTGCGATACC | GCCAGCACCT | TGCACGACGT | 60 |
| 45 | CCGCACCAGC | TGGTCGTGCG | TCTCCAGCGC | CGTGATGATG | TCCTCCACCG | AAAACACCTC | 120 |
| | CAGCACCGTC | TCAAACGGCG | CAAGCTTCAC | CACTGTGTCC | AGCAGCGACA | GAAGCCCGCT | 180 |
| | ATAGTCCAGC | CCACTCATCT | CCCCTGCCGT | GAGCACCTTT | TTTCATCGCCG | AGAGTAGTGG | 240 |
| 35 | CCGTGCGTCT | GCGTCGAGAC | GCACCATCAC | CCCCAGGTCC | AGCTGCAGCA | TGTCCACCAG | 300 |
| | CCCGTTCACC | GACCCACAGC | CGTGCTCCTC | GGGCGCCTCC | AGCACATCCG | CCAGCTGGCT | 360 |
| | CATTGCGtCC | TGGA TCCTCC | ATTCTCTCCAT | CGCGATATCG | ACTCTTCCGA | AGTAGCGTTT | 420 |
| 50 | TGGGTTTGT | AAAAGTAAAG | GGCATTCTTC | CAGCACTTcG | CCACTTAAATG | TCGTGAGGCA | 480 |
| | CAGAACC GGG | GCCCTATGTT | GCCGGAGTCA | AGGCTTGCTT | CGCTATATTG | CGACTTCAGG | 540 |
| | AAGCTGCAAG | AGCTCAATcC | AGATGGGTTT | CAGGCTAACG | tTCTAACATG | GaAAGACCAC | 600 |
| | CTGATGAACA | CAGTGTGGCG | GGACgAGCTT | CTGATAGAag | GGGGCGACAA | GCTGCTGGAg | 660 |
| | CGATTGAgCA | CCAAGGAGAC | GGG | | | | |

1034RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCATATTG | GTCTTGGCGC | CAGCATCGCC | TCTTCTGGTT | CTGAGCCAGT | AGTATGATAG | 60 |
| | CATGCCGCGG | ATGAACCTGG | CAATGGAGAA | ACTAGGTGAG | TTGTACATCC | CGACGCCAAG | 120 |
| 5 | GGCAACGCCT | GAGGGTAACC | ACTGCGCCCA | TCTGTACTTG | TCCTTATCAA | TACAATTCTT | 180 |
| | TACGAGGGAT | ATGACTGCAA | AGATGCTTCC | TAGGATGATC | GAACATTCCA | GTGCGTATGG | 240 |
| | TGGGAGTGCC | ATACCCATGA | CCAGACGTGC | GCAGTCTATC | CATACGAACG | CAGTTGGGAT | 300 |
| | CCGGAATTGC | TGGCTGGGGA | TTTCGTAGAC | CTTGTGTGTA | AAAAATGTACA | TTACGCTAGA | 360 |
| | CAACACGATC | GACCAGCTGG | CGCCGATAAT | CTGCGCGGTA | AACTGAGCCC | TAGGAGAAGC | 420 |
| | ACCGATTAAA | TGCCCTGTCT | TAAGATCTTG | CATTAAATCG | CCCGCTTGCT | GAGCGCCCGC | 480 |
| 10 | CTCAGCTATA | CTTCCGGCAA | CCAAATTTAT | TAATACAGCG | GCCTTGTGAT | CCCTGGGTAC | 540 |
| | ACAAGAGCGA | AAATGATTTG | AGCCAGCTTT | CCGATGCCGC | TGAACGGGTT | GAGATCGGTT | 600 |
| | TCCCCAAGAC | CCGGACGCCC | AAAATCGATA | GAAAGATGCT | ATAAGGAGA G | CCA | |

1034UP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCACGCAC | AGCGGACACC | ACCAAAGCAG | AACCACGGTA | CCATATCTCT | CACACACGGC | 60 |
| | TCCCACTAGC | ACAGCGCCTC | CACCTGGCCG | CCCTGGGCTC | GGCCCCCCGT | CGGCATAAGC | 120 |
| | ACGTCGGGGG | ACCTATTTAG | TTCCAAAAAT | ATTGTTGTAA | CAGTAATAAT | ATCCTCATTG | 180 |
| | AGGACATTTT | AGTTGTTACA | CTGAAAAGAA | CAGATACTAC | ACTTGATCTA | AGCCAAAAGG | 240 |
| | CAAAGAGATT | TGGTTTCTAA | AAGAAAGAGA | AACATGCCTG | TAAGAGGGAG | GGCCATCGCA | 300 |
| 20 | CATTTTTTCT | CTCCTTATAT | ACCAAGTAAA | ATTTAGAAAA | AGAAAACGACG | CGGCTGCTTG | 360 |
| | GTCGGCGCCG | TCTGCCTGGG | ACTCCAGAGG | GGCTCACGCA | GGAATCCTGC | ATCCAGGGCG | 420 |
| | ATGCGATCAA | GCTCTGAACG | CCCATAGCTG | CCGCCATACA | CGCCGCCATT | CGCGAGCTTT | 480 |
| | CGTTGAGTTC | GTAAGCCATG | AAATCACAGT | ATACGATTCT | CGAGCGCAAG | TTAAAGAGAG | 540 |
| | CCCCTGGGC | ATACTGCTAG | GGCTACAACT | GCGCACCAGC | TCCGAAAGCG | GAATCCCAAT | 600 |
| 25 | AGTTAAGGGC | GGGTGGCAAT | AGTATCTGCT | GCAAGCAGCT | TCTAGAATTT | GGTAGATGAG | 660 |
| | TGCGTTTCATG | | | | | | |

1035I2

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCTTAAA | AGCTGGCCTC | CGCAGATAGA | CCTTCTGCGC | AGAGGCTGGA | AACCTCAACT | 60 |
| 30 | AGCAAGTCCG | CACCCGAATC | AGATAAGCAC | TAGAGTCGTT | CCAGTAACAG | AGGAAGCGAT | 120 |
| | CAAGGAAGAT | AGTAGAAGAG | GACACTGCTG | CCAGGCTTGA | TCCGACAGAG | GGTTTAGCTT | 180 |
| | TCTGTTGAAT | TTCAGAGTTT | CGGCGCTTGG | TTTACTTCGC | TTTATTCTTT | CGTGTAAGA | 240 |
| | AGCTGTTTGC | AGGATGTGAT | CATTTGCCAG | TCCGCAGGTA | GGGTATTGCA | GGGCCGACGG | 300 |
| | AGTCGGTGAA | ACAGAGTCAG | GACCGAGAAC | GCCGATAGAC | AGGCGTTTGG | TTTGTAAAGC | 360 |
| | GTGAGAGCTG | AAGCAGCTCA | AGAGGCCCGC | CTTGCTCAGG | TTGTGCGGTG | GCGGTAGAGC | 420 |
| 35 | ACAGCAGGGC | ATCCCTCGTC | GGTGAGCGCT | NCGGNCAGNA | GCCCAGGCGC | NTCGAACAGG | 480 |
| | GGGTGTTTAT | NANGANCNAC | CGACCACAAA | CACGCTNTNA | TTCCGNACCGG | CGGCCAGTTN | 540 |
| | CCTCANCTG | GTTCCCGNGA | CTTGTTTNN | GAGCCNATCC | TTGGCNCTCC | GCCNNAGNAA | 600 |
| | AAAA | | | | | | |

1035I1

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTTTGT | GGAACCAAGA | TCACCACACA | CGAATATGCG | ACGCCAAGCG | CCGGAACGAG | 60 |
| | CCACACATGG | GCCGCGGCGG | TAGCGGTGGG | CCCAAGCAAG | CGTATTTTGA | GGACCTGACG | 120 |
| | TGCTGTGGGT | GAGCAATCCA | GGGCATACTA | GGCCAGGTT | GTCAGCTGAA | AGTGTGTTAC | 180 |
| 45 | CCGGTATCGG | TATTACCCGG | CTCGTATAAA | TGTTACCCGG | ATATGGTGAA | GCCAAAATTT | 240 |
| | TCCACGGCGT | AAACAACAGG | AGAGTGTACG | TGCATATGGC | GGCAGCAGCT | AGTGTAGCCT | 300 |
| | AGTGAGAAGA | AGGNCCTGTA | GCTAAGACTA | GCGAGGAGAC | GAGGATTGGG | CACTGATTGC | 360 |
| | GCGATGTGCA | TATTCCTCTAC | GCCGCTGAAG | AGCAATGTNG | NATATNNGGN | CGCGCTNGTN | 420 |
| | GGCAACCGNN | GGNCCNGNGG | AGAGNACCGA | GNTTGNNTNA | NGGNGNGGCG | CNCANAACCA | 480 |
| 50 | ANNNTNCCN | CAATCNCTTA | CNATCAANN | CAANTTNCCN | CNNNCANCCC | CNNNGNNAT | 540 |
| | NNNNATTCCN | NCNNNCNN | | | | | |

1035RP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCTTAAAT | TGTTGCATIG | TGACCTGAAA | GTTGCCCGGT | AGACGCTGCA | TATTCAAGGT | 60 |
| | TTCCATTTCC | ACGGGACGTA | ACCTAATCCG | CTGCACTTTC | GACAAACGAC | TAATGTATCT | 120 |
| 5 | GTCTCTCGAC | TCTGGGTCAAT | TGCGATCCCC | ACTCCACTGT | ACTTGTCTCTG | ACTGTAGTTG | 180 |
| | TTGAAGCTTG | AGGTTATCTG | CCTCGAATGA | CTGCAGTAGT | AGTGATTTTC | GTCTCCCAAT | 240 |
| | CGTTTCTATG | GACCGCCTGA | ACACCGAACG | TGCCTCCGCC | TGGAAGGACT | CGAAAAGCCG | 300 |
| | CCGCTCCTCT | GCAGAAGGCG | GGAAATAAGA | CATAACTTGC | TCATCGCGTA | GGTAAATCTA | 360 |
| | CGTCATTATC | CGCGTCCACC | ATGTTCCGGCT | GGGATAAAAT | GGTGTTCCT | CCAGGGGGCG | 420 |
| 10 | GGGAATACCA | CCCCTCTCC | AATCCTGCC | CCGTTANTGA | ATNGNTTNT | TNATGGGGNN | 480 |

1035UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCTGGCGT | ACGGTACCGA | TATATTTCAA | CTGAGGTATT | CGTTAGAACA | GCTACCTTCA | 60 |
| | GTGGTTCCAC | GCTATATTCG | GTTGCAAATA | TGTTTCCGTA | CCCTTCTGGC | TTATCAGTGG | 120 |
| | CATTAAAGAG | CGCGCTAATG | GGGACTATCT | CTTTTACTGG | GCCAGTGGTC | TCCAAGAGG | 180 |
| | AAGCATTTCT | AATATATTTT | CCGTGGTTTT | TCAGGATGCC | ATAATCTGGT | ACACTCACAA | 240 |
| | ACAAATTTATG | TTGCACTGGG | TGAGATGCAG | GGGTATTAGT | ATTTGGAATC | ATGTGGGTGA | 300 |
| | TTGTCCCGGA | TGGGGTGCGC | TTCAACAACG | CAGAGGAAA | AATATCCCCA | GGGGGATATT | 360 |
| 20 | ATTNGTCGAA | GCAAGAATCG | CTTCGAGTAG | GGATTGAAGA | TTTCTTCTTG | ATACTTAAAG | 420 |
| | CTGAATTGGT | TCANATGGGG | TCCAACGAAN | GANTAGGNTG | GATGGNCCCT | TNGGGGGGGG | 480 |
| | CC | | | | | | |

1036RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| 25 | GATCATATTT | CAATGCAAGA | GCTCCATTAA | TAGGTATTGT | CTTGAGACAT | GCGCTCAAGT | 60 |
| | CATTAAATGTC | ATGGGAAAAA | TGCACCGTTC | CACCTCCTAT | CTCCAATGTA | TATTTTAGCA | 120 |
| | TTTCAAAATC | ATGTTTTCTG | TTTACTATAA | AGTGCAACCC | ATTGAGGTCT | GCGGCTTTCT | 180 |
| | TAGTAAAGCC | TCTAAAGGCG | TAATGCTGCT | CTTGATATACT | GCGTAGCTGT | GGGTCAAAAT | 240 |
| 30 | CGGTAAACAGG | CTGTGGAAGA | AGAGCGGTAA | ATTGTTTTAG | AAATTCGAGA | TGCAATATTG | 300 |
| | GTATGCCCTTT | AACAAGTGCA | AAACAAATAC | TTTTTCGGAA | TCTTGGTCAT | CTTCATGGGG | 360 |
| | TCTTAATAAT | ATGATGTGTA | GTGGGCCTCC | GAAAAAGAGG | TCACCACTCG | TATTCCTAAC | 420 |
| | CCTTAATTAC | CTCAAGCAAA | GCAGGGCTTC | TTGTAACAAA | GTTTCGGGAC | CTGGACTCCC | 480 |
| | CATGGGCCCC | TCCAATNTGA | TTGGNCGGAT | NTGNCCCT | TCCNGATANA | GGNCTGGATG | 540 |
| 35 | GCCANCGGAA | NCCNTCCTAG | TGATNTCCCN | CCCCCTCAGT | GNNCCNCTN | GAGGTTTGGA | 600 |
| | NGGCNNNTTT | TCCNNTNGCG | GGNNTNTCTG | GNAACCNCCC | CCNTNT | | |

1036UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| 40 | GATCCCCCTT | GGTAACGAGA | GGTGTGGGCT | TGTATTCACC | GCACATCGTG | GGCTATTTGT | 60 |
| | CATTACTCTG | GCCCCGTCCC | AGAGACCTAC | AGGTATAAAT | TCCCCATCAA | GTGCCACCAG | 120 |
| | AAAGATATGC | TATACTGGTT | TTGAGCTTGA | GCGACTGTTA | ACTGCAACCA | GCGGGACCGA | 180 |
| | ACGGGGTAGC | TTTTACTCAT | TTATTGAGGC | TAAATTGGAA | CCAGACATCA | CAATTCTGCT | 240 |
| | TCAGTGCAGAA | ATGGACGCAT | ACAATCCAAA | ACGCCAGAAG | TATACTGAAA | TAAAAATCCTC | 300 |
| | TGTGGACTTC | AATGTACGAA | ATGTCCGGCA | CCTGAGCAAA | CTGCTTAAAA | TATGGGAACA | 360 |
| | AACAGGGGTG | GTCCCATCCA | CTGATATCTT | GTAGGGGTCA | GAGACCCATC | AACCCATGTG | 420 |
| 45 | TTGAAACAGN | CGGCCCTTAT | GGGTGGTCAA | ATCGNAGGAA | AATCTTTTTA | GGGTCGNCGN | 480 |
| | NAGGCANAC | TTNTTTTANT | TATCCGAGTG | CAANATGGAA | ATAANCATCG | TNAATTTGGA | 540 |
| | AGGTATTTCC | CGGGGNGAAC | CANCGGNCC | AANNNTTTTN | NGGGGTNGAA | AGANTCAAAT | 600 |
| | TAAATNGGCC | NGT | | | | | |

1037RP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCATCATT | ATTTCTGCG | TTCTGTCCGA | CGATTCTGAAG | GGCGGGGTCTG | GTTTCTTGAA | 60 |
| | GGATTTTCAGG | CGTATGAATG | TTGCTCTCAC | CAGAGCAAAG | GCCAGTCTCT | GGATCCTGGG | 120 |
| 5 | TCACCATAAA | TCTTTATACA | AGAACAAGCT | ATGGATGCAT | TTGATTTTCAG | ATGCGAAAGG | 180 |
| | GCGTGACTGC | CTCCAAATGG | CATGTCCGGG | CTTCTTTGAT | CCACGGAACA | GAGCCGCCCA | 240 |
| | GGATGCTCTT | CATAGGTTCA | AAAATCACCA | TAATTATATC | GAGAACGCAG | ATGATTATGG | 300 |
| | GCCTGAACCG | GTGATGACTA | AATCAAGAGG | ACGCAATAGA | TCATCCAGAA | AACGCAAACA | 360 |
| | TATGGAAGAT | AATCCAGATG | ATAACTACGA | TCCCGTTGCT | GAATTCAAGA | AGGAAATCA | 420 |
| | AAGAGAAAGC | AACACAGGCA | CCGGTGGTTA | CCGTGCGGAT | ACATCTAACC | ACAGATTGGC | 480 |
| 10 | ACCTGCTAGG | AACGATAGCA | AGAAGGCCAA | GACGTGCTCC | AATGCCGCCG | GTATTTCCGA | 540 |
| | GGCTACTTCA | NARGATGGTG | ATCGAAGTCA | GAAAGGACAT | GGAACCTAAGA | AGARTCTTCC | 600 |
| | ATATTC | | | | | | |

1038RP

| | | | | | | | |
|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCAAAAAA | AGAAATTACA | ATTGACTGTT | GCACCCACAC | ATTCAACGGT | TGCACCCACA | 60 |
| 30 | CATTATGAGA | TGCTTGATTT | GGCGCGAACT | GCGCTTTCCA | ACTACAGTCC | CGAGACTTTG | 120 |
| | GGTGCCCAACC | GAAGCAGACT | TCAACAGTGG | TGATAACCAT | AGTGTCGAAG | TCTAGCGAAT | 180 |
| | CTAAGGATAA | TACCAAGAGA | CAAAGCATAA | TCGTATGTGC | ACAGGATGGG | GCGAAGTGTG | 240 |
| | GTCTAGAGCT | GTCCGGTCCGA | GCAGAAATACG | GTGCGGGCAA | TGAGGACGCC | GCAGACGCCG | 300 |
| | AGCGTGTGGG | CAGCTCACGA | GGGCCGGAGC | GCTTCCAAGC | GGTCAGACAG | AGTACTAACG | 360 |
| | CATTGCAGAC | AAGATGGCTC | ACGAAAACGT | TTGGGGTCTC | CCACCCNNAN | AAACTACGGT | 420 |
| 35 | AAGGGGTCCC | CCAGTGCGCG | TGTGCGCTTC | GNCTCTTGTT | GGTCANAAAG | TACGGGTTGG | 480 |
| | ACATCTTCCC | CAATGGTTCA | NAGAGAAAGC | CACGACATTG | GTTCCCAAAT | CCCTAAGAG | 540 |
| | GGGGGGGGCC | CTTCCCCCTC | TNCNAAATCC | GGGGGGGGTT | TGGTTTCNCG | GAGGTTTTNT | 600 |
| | TATTTTTTCA | NACCCCNFTT | TTTANTTTNA | NNCNCGGTNC | CCAGNNGTTT | GGN | |

1038UP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCGGTTCT | CGGGCTTCTT | TAGCTGCCCG | TTATTCAACG | AGTCATCGAC | TGAGAAAGAG | 60 |
| | ATAAAAGCGG | TCGATAGCGA | AAATAAGAAA | AATCTCCAAA | ATGATATGTG | GCGCCTTTAC | 120 |
| | CAGCTGGGTA | AGTCGCTGAC | CAACCCCAT | CACCCGTACC | ACAAATTCTC | TACTGGAAAC | 180 |
| 45 | TTTGAGACTT | TATGGAGCAT | TCCGAGATCG | AAAGGCGTCA | ACGTCCGTGA | TGAGCTGCTG | 240 |
| | AAGTTCTACA | AACGGTCATA | TTCTGCAAAT | CTCATGAAAT | TAGTGATCTT | GGGCCGCGAA | 300 |
| | GATCTAGATA | CCTTGGGTCA | GTGGGCATAT | GAGCTGTTCA | AAGACGTCCC | TAACCATGGG | 360 |
| | ACCAAAGTGG | CTGAGTATCA | CGGCCAGGGA | TTCAACGGCCG | AGACCTGATG | AAGGTAATTA | 420 |
| | AAGTGAAGCG | GNTAAATCT | TAAGAGTGTG | GAATTCAATC | GNGGGCGAGA | TTTGTTAGN | 480 |
| | ATGGAGGCAG | CAGTCGTATG | NGGATTTATC | GCCAGAGGAA | GGTCTCTCCG | NTCTGGAGAA | 540 |
| 50 | AAAGTGAAN | CGNCNNCCGT | NGGNNTCCCC | TTNAAAGGAA | AATNCCCCNC | AANNNGGCTTN | 600 |
| | ANNAAGGNT | | | | | | |

1039RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCATTCT | CTTCAATCCC | ATTGACGTGA | ATGATGAACC | GCATTATCTT | TTTAACAGCG | 60 |
| | ACAACATGCC | ACGGTATATA | ATTGTCCTTA | CCTCGTGATA | TGCAGAACCA | GGTGTITTAGA | 120 |
| 5 | CTGGCAATAT | CCCTAAACTG | GTGTAATATG | GTCTTCAAAA | GTTTTGTGCT | GTCCGAATGA | 180 |
| | GGGCAATTTA | GTAAATTAAC | CTCGAATTG | TCTAAAGTAT | CGCCACCGGC | ACATCTTTTA | 240 |
| | AACCGCACCA | GCGCGCCGCT | TTTTATTGCG | CATCGGCGCT | GTGAATTAGC | AAGTTGTAAA | 300 |
| | GGGCTACTGA | ATACGACGCC | ATGCAGCTCT | TCATCGATAT | TCACAACCTC | GTAATCATCC | 360 |
| | AATTGGTTAG | CTTGGATTTT | GGNGGGCATA | TCTCTTATCC | CTAAAAAGTG | GGTTGGATGA | 420 |
| | TGGATAAAAC | TGATCTTCAT | CATATAGAGA | AATTTGGGCT | CGCCCCAACG | CAGACACAGN | 480 |
| 10 | CAATGTAGTT | TCTTGTGGCA | NAGTTNGCTN | CGCAGGNATT | ACTCGCANCC | GGGGAGGTNT | 540 |
| | CACCCCGGAG | ACAAAAATTC | CCCCTTTTCT | NTGGAAATCG | TNGTAGNNCC | TANCAAGGAT | 600 |
| | GGGTCAAGGA | CCTGGTTGCC | ATTCCANTTT | ACCATTTTIN | CCC | | |

1039UP

| | | | | | | | |
|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCCTTCCA | ATAACGGCTA | AACATCCATG | TGCTGGTTTT | AACTATGAGG | GAGTTGGAGT | 60 |
| | AATTTCCGGG | TCTCGCAAAG | TAAATTGACA | GAAAAACCCTC | AGATCGGTAA | CGAAACAGCT | 120 |
| | GAACGACGGA | GATTAAAAAG | AAGAGGCAAA | TAAGCTATAG | ATAAGATCGA | TAAATATTGA | 180 |
| | GGGGGGGATG | GATATATTAG | AAACTAGCTT | TAGACTTGAA | GATGTGCTTT | CACGTATTAT | 240 |
| 20 | TAGAGTTGAA | AAGGTGGTGC | GAGTCAATTA | TCAACAGTTC | GTACCGAGGA | CTCCAGATGA | 300 |
| | TCAATGGTGT | ATCCAATCCG | AGCTTCTTAA | TCCGCAAGAA | GGATCCGAAA | GCGCTGGTGG | 360 |
| | CGCTTTTTTC | GCGGGAACCTC | TGGTGCTTTT | AGCATCAATG | ACCAGGACTT | ACCCATTCCC | 420 |
| | GGGGTTGGAA | GGGATAGGCG | AACCCCCCNC | CTCGGAGAAG | AAGGGCCACT | TTACGGCAGG | 480 |
| | GTTTTCCAAG | GCNAACCTGC | AACGCCNNTG | GATCTTTTTA | AAGCNTGGGG | GGATGNTCAA | 540 |
| | TAANAATTCTN | GAGGCGNAGA | ACCTTTGGCA | ATTGGAAAAAN | NNMTTTCCTC | GNAAGAAAGC | 600 |
| 25 | NNAGGGANCC | CCCCGGGNCN | NATTTTTTGA | ATGNC | | | |

1040RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCCAGTGT | ACCAGGTAGC | GTCAGGCACT | TCTAGCGCAA | GGGCCGCCGT | AAACCTTGGC | 60 |
| 30 | CTCTCACAGC | ATTTGGGATG | AGTATGGGCC | ATCTTTAGGG | CACGTGAGTG | ATCATGATGG | 120 |
| | GTACAAAAAG | AAATGATTTT | GCCCAGGATC | GAACCTGGGA | CGTTCTGCGT | GTTAAGCAGA | 180 |
| | TGCCATAACC | GACTAGACCA | CGAAACCACT | TTCTGCAGGC | TCTTATTGGA | CAGGTGATGT | 240 |
| | TAGCGCAGAA | GAACATGAAC | GTGATAATAA | TTGAGAAACC | TCTTATGCTA | AAGTGAATTA | 300 |
| | CTATTGCTTA | ATAACCTGAA | GGGAATAGGC | ATTGCCAGTA | TTGAAAATCG | GGCTTTGGGT | 360 |
| | TTATTGGCTA | ATTATATTAT | TNNCANTATA | TATATATACC | AACAAGGTGA | AGAAATGGNTG | 420 |
| 35 | TCGNTGGTPT | GGGGGCGATA | CCCNAGAACC | AAAGTAGAAG | TTGACAAGTT | GGTGGNAGNG | 480 |
| | GTTCAATTCA | GNACTTCATG | GCAACNTTTA | CNATNNTTTN | NTNAGAACCC | CCNATTANTC | 540 |
| | TTTNNCTTCG | GGGGGTCTCN | NCNAACCGGA | AACAATNMTN | CNGAACTGAG | TTNGGGGGAN | 600 |
| | GTTCTNCTGGT | NTTTTCNNCC | TTTGGGTCCA | AATTGGGCCG | GAANCCCT | | |

1040UP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCAGCAAC | CTTCTCCGCC | GTCTGTGTCC | TGCTTTTACC | GAGGATACGA | AAATAGCCGC | 60 |
| | GGCTCTGTTT | CAAATGGCGA | TGCTGACGAG | CAAACCACTG | CTTCTGATGC | AAGCAGTACT | 120 |
| | AGTTACATTA | TTCTAGAGAT | GGAGGCAATG | CGGACAGCTC | TGCGTCAGTA | TTTGAGGGCA | 180 |
| 45 | ATCTGCCAAG | ATGCAGAGGT | ATCCGCCAGT | CTGTCCCTAA | CGAAATTCCT | ATTCAAGAGG | 240 |
| | ACGATAGACA | AGCGTGCTTT | TACGCCAGAA | ATCCTGGAAG | ATATTGAATC | TCGGGAGCTT | 300 |
| | ATGGATGTAT | ACAACCTCGA | AAATCAAGTT | AAATTCCTAA | AAATGGCGGT | TTGGATAGAA | 360 |
| | CTGTGAAGCT | ACAAAGTCTC | GCTAAAGTCC | CTAAAAGAAA | AAATCTTGCA | AGATATGACT | 420 |
| | ACATTAATGAG | GTTTTCCNCC | AAATTAAGGA | GAGGAGGATC | CCAGNGACNA | TTTAGCTCTC | 480 |
| | AGAGATTCTT | GGNTGGGGAA | AAATTTTTTAG | GTACCNATNC | AGGTTCCTCG | AATNAATGTN | 540 |
| 50 | NATNTTTTAC | ANTCGCGCNG | AAATATGTCT | ANAGNNNAAG | TTTGGGCACC | CCCCCNCCT | 600 |
| | ATGANGTTTT | GTC | | | | | |

1041RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCCTCCAC | CAGAGCGTCG | GCGTCCCAT | CCTTCTGTTC | ACGCAGTGGC | GCGTTCTTGT | 60 |
| | AGAAAACGCC | CAACAGTTGT | TTGTAGGTGA | ACTCGTCGCG | GAATTTCTGG | GCGCGAATTTC | 120 |
| 5 | GCTCCAGCTC | CTCTTCGGAA | AGCTTTTCAC | GGCGCCACCA | GCTTCTCATC | CGGTTCAACC | 180 |
| | AGCGCTTTTC | GTCGAGTGCC | CGCTGTTCCG | CCGCTTCTGC | CGCAGCAATA | TCTCGGCCCA | 240 |
| | GATGCCGTAC | GCGCTCCGCC | ACTTCATGAC | GGATGACGCC | CTGCCGCTCT | TCTGTGAAGA | 300 |
| | ACTCGTAGTC | CAACCCAGCT | TGGAACAAAC | AACTGCTTCA | CGTATCGCCG | CCATACTTTC | 360 |
| | ATCGACGTCT | CGAGATAGTC | GGCCGGAGGA | GGGGCAACAA | ACAACGCGAG | CCGCCGCGGT | 420 |
| | TTGGGGCATG | TGTCANGTNG | GCTGCGCCTG | GGCCTTCACC | AACGACGAAT | AATGTTGGAT | 480 |
| 10 | TTNGCCCTNG | TCCCNNTGGCG | GNINCAATCA | GAATGCCCGN | TCAACCNAAN | CAAAAGGGAC | 540 |
| | AATNNGCCGG | AACCAAGGCG | GTTCCANGCC | GAAAGTGTTT | ATTNNCCNAC | TNTTCCGGTA | 600 |
| | NAATTTTNT | TNTNCNCTGG | GGNTGTGNNT | NACCNCACC | CCNAAATAA | | |

1041UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCTTC | CTGAAAAATG | GCGTCTCTGT | CTTACTGGTA | CTCTCAAATA | GCTACGTCTA | 60 |
| | GGTACAGGGC | CATTTCGGGA | TCCCAGCCAC | GGGTCCACTG | CAGGAGGTAC | AACAGGATAT | 120 |
| | CGCACGTCTC | GCCCTGGCGA | CGTCACTTGG | AGCCTCCCGT | TCTCGTCTTG | ACGTCTCAAT | 180 |
| | AAGGTACGCC | GTTTCTCTTC | GCCGATGGAC | TGCGCTAACT | GTATGGCCTG | GCTACAAGTC | 240 |
| 20 | TGTTGGTTTC | GAGCAGCCCA | CTTCTTTATC | CACCTTCAAG | GTTTACCOCA | ATCCAGCAAT | 300 |
| | TTTGGGTCTT | GGCAGAGCCG | GATATCATGT | GACTTAATTA | CGTCAACGTT | CAAGAGTTGG | 360 |
| | GGGCGGCGGC | AGCAAAATTA | ACGGGGGCGN | CGTCTGTCCC | CCCCGATCGG | GGGGGGGGGA | 420 |
| | GGGNATTANC | ANTCCANTGC | CGGCCAAATC | TTNGTTTACA | NAAAGCAAGC | ANANTCATAG | 480 |
| | TGATTTGGGG | GAANANCCCA | AGGTTNNGGC | CNCCANGGNT | CAAANTCNCC | CNTTNTTTT | 540 |
| | TGGGTTCCCG | NCGGAAAANN | CCATTNCNCG | AGGGGCCNAG | GNCCGGGAAT | TTTCCCNGT | 600 |
| 25 | TNNAGGGGAG | TCNNTTNGCG | GGGGANNNG | CCANAGGAAG | GNGGT | | |

1042RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCGTGCT | GCGGACAACC | GCCAGAGCTC | GCCTACAGCC | CGTATATATA | CGCCGGCTGC | 60 |
| 30 | CGGCTGCGCG | CATGCGATTT | GTCCACCTC | GCTCTGCTTC | GTCCCGCCTG | CCGTTGCTCC | 120 |
| | ATGGGACCTT | TCATTTAGTG | TCTCGCGAAC | GTTTCGAATG | TACCTATCG | TGGTACCACG | 180 |
| | TTGCCGTGCG | TGCCGTTACT | ACATCTTCTA | GCGCGGACTG | AGTCACATGT | CTCGCCGCGC | 240 |
| | ACTCCTTTTC | TGTAGATAGT | CAGACGACAG | ATAGTCGATA | GTTGGAGATT | TGGGCAACAA | 300 |
| | TAGCGGTGGC | CATTACGCTT | GCCCATTGTT | CCCATGTTCAT | TGGGAGGCTG | GGNCCACCC | 360 |
| | ACGGGAACCT | TTNCCCGTTT | AANCCTNANA | GNCCCNNGGA | ATGNAAAACN | CTTCTTTTNG | 420 |
| 35 | NCNGCNGCAA | ACGGGCTTNN | AGGNGATTTT | TTTGNCGATT | NGGGANGCAC | TGAGAAATCCA | 480 |
| | AGTNNGAAGG | GGGCTNNAAA | AATNGCTCCG | GGCCANNCCCT | NCCCAAAGGT | TTNAAAANCN | 540 |
| | GCNTAAATNA | GCCNCAGAAG | AACCNCGGGA | GGAAANCANAC | ANAAANTNGG | CCCNCCCTGA | 600 |
| | AGGAAAGGGG | CNGNNNTGGG | GNCGAANCCC | CNGNAACGNT | NTTCTTTAAA | GGANAACAAA | 660 |
| | NGGTNCAAAA | AAAATGGGGG | NC | | | | |

1042UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCGTCC | TCGAGCGACT | TGTGAGGGTG | AAGCTCGATA | CGGTGATGGT | GGTGGTGATG | 60 |
| | GTGGTGGTGA | TGGTGGTGTG | CTCTGCCCTG | CGGTATGACC | TGGGCTGTTG | GCGTTGGGCT | 120 |
| 45 | GTTGCTGCCG | ACAGCAGCAC | CTGTATCCGC | AATGCCCGAT | ATGCTAGAAT | GGAGCAAATT | 180 |
| | AATGGACTGG | TCTGCATTCT | TGCAGAGCGG | AGCCTCGCAC | ATGCTGGATA | TGCTTACGAG | 240 |
| | ATCGCCGGAG | GATCTTTATG | TCTGTTTTCG | TATTCACCAC | GTGGTCTGTT | CAGTGCTGTT | 300 |
| | GTTTCATGAC | CAGCCCGTAT | CTTCANAGGA | GTCTGAGTTC | ACGCATTGTT | GGGCAAGGCC | 360 |
| | AGTCGAAGGA | GGCCATCCTC | CACGGTCCGG | GAGTCCCCGG | GGGACGTTTC | CACAAAGCCAA | 420 |
| | GGTACCTAGA | AGATGAATCT | TTTTTGANTC | ANCNGTTGGG | CCNCTNGGCA | ATTINAAGTC | 480 |
| 50 | GNAANTGNTG | AACCTCGGAA | AGTTGGAAAT | TGGNCCNAGG | NCTTCTTCCC | CCCNCCNCT | 540 |
| | TNGGNAAGCA | AAAANAAANA | ATTAATTGGN | CCCCCCCCCG | CAAATTTGNG | GTGAGAGAAA | 600 |
| | TTTCCAAACC | TGCGGTAAAT | AGTAAGGNCC | CCGNTGNCTG | GGCCCNCCC | | |

1043RP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| | GGATCGGCGA | TGGCGATAAA | AGAATTGCTC | CCTGATTGAT | TGTTGTTCGA | AGGAGATGCA | 60 |
| | GATGGATTGT | CCAGAAAAAC | CGGTTTTAAG | ACTCGTTCAT | CAAACCTGTT | AAACCATTGC | 120 |
| 5 | CCATCGGCTT | GCAGTATATT | GCCCAAGGTT | TGCGGATAT | TTCTTCTGTC | TAATGATAAT | 180 |
| | CGCCCCACAG | GCTGGTCAGC | GCCTGATGCA | GAGCGCGAAG | AGGGTCGGTC | TATCATAGGA | 240 |
| | GGAAAGCTTT | CTTGATCCGG | GGAGCCGGTC | GGGCTGTCCG | TTAAAAATGG | AGGTGCGTCT | 300 |
| | AATGAAGACA | TTAGCTGGAC | AGGTCTAGGG | GCTTCAATAT | CAAATTCATC | ATCCGTTTCC | 360 |
| | TCCTGTTCTT | CTACGCACCC | TGTCTTTATG | TTTAAGATCT | CAAGCATACC | CGCAGGaGta | 420 |
| | CCtCCaaATa | TgATAACGGt | GaGAACCACA | AcTaCCAGCa | CAGtGGCCAG | AaGAGGGGAA | 480 |
| 10 | CTTGGANCTC | GCCCNNNNGA | CCCNTAGCCA | GNGNCACTCC | AANAGNAACC | CCNAANCCCG | 540 |
| | NCCNNNNNGG | NAACNNCCTN | NNTTTTNGNNT | TGGATNTCCC | CNANNANTNN | AAAACCCCCC | 600 |
| | CCCCGGGNTN | TTNNNGGGNC | CCNNNNNCCC | NNNAANGGGN | AAAANNNC | | |

1043UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGATTG | TCTTGTGATG | GAGAAGCTGG | CGCATCAGTA | GAGTGCAGAG | AAGACCCATG | 60 |
| | CGGAACAAC | GTACCACCCA | GGGACTGCCG | TCTTCCCCTG | ATGTTGGGAA | AAACAACAGC | 120 |
| | ACGGcCTGAG | TCACTTACAG | TGCGAGTGGG | TTGCGAGCGC | GACAGATTAA | AAGAAAAGCG | 180 |
| | CTCGGGGTTT | GTGAACAGNT | CAGACCAAAA | CCCAGGTCTT | GGCTCGCGGA | ATTCTCTCGT | 240 |
| | TACCTTACAA | TNCAACTTAG | TGTGTTCCGT | GTCCNAAATA | TaCTCCAAAA | TCTTGATCCG | 300 |
| 20 | cGCACCTCTG | TGGTTCATgT | CCTGCACAAG | TTGACCACTG | TATTCCaGTT | TGaCATCAGA | 360 |
| | GGGcGAAATC | ATCAgtGTGT | GGCgttCACA | GAGCAAATaA | aCTCctTtAC | TTCTctgcAC | |

1044I2

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTACAGA | ATGCAGGAGA | CGCTGCTTGA | CACAACACAA | ACGGCTGAGA | CGGCAGGCGC | 60 |
| | GGCCGAGCGC | GTGCAGGAGG | CGGACCCGGA | CGGACAGGGG | GCGGGCGTCC | ACTCGGGCGA | 120 |
| | GCTGCTGGAG | GTTGTGGAGC | GCCACTACGG | GGCGCGGCGG | TGCGCGCTGG | GGACGATACG | 180 |
| | GTACGAGGCC | GCOCGCGCGG | GCCGGCTGAC | GGGCGGCGCG | GGCGCGGCC | TGCCGTTTCC | 240 |
| | GTACGAGGTG | GGGCAGCAGA | CCGTGCCGGT | GCCGCTTGCT | GCCGCGCATG | GGCACGGCAG | 300 |
| 30 | CGATCCAACA | GGCTCGTGAC | GGTGGAGCTG | AGCGCGGAGG | ACCTTGAGAG | CGCGCTCGCG | 360 |
| | ACGGGCGAGA | ACGCACGGGT | TGCGCAACCC | GGAGCTTTTG | TGGGTAGNCG | TGTTCAACTN | 420 |
| | AGANTCGGGA | CCCNNTTNT | NNTGCTNNNG | NACTNNNGNG | TGNTNNACGN | NGAGCTGAGN | 480 |
| | TGCAGGNCAN | GNNAGNNNNC | CNNNCNNCGN | ACGCCCNCCA | ACCCNNNGAN | CCCNNTTTTT | 540 |
| | TAGNNNGNTT | TAANNCCNNC | CCCNNTTNN | GNNGGGNNNT | CCCCCTTGNT | NTNNNNNNNN | 600 |
| | ANTTNTCATT | TTCCCCCCTT | CGNAGGNTTN | NT | | | |

1044I1

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCCGAC | TGCCGCCGTC | TGTACCCGTC | ATCGCCCTCT | GTAGTCGCCG | TCATGCTCAT | 60 |
| | CCTACCCAGC | CGCACCAACC | AATGCTCGAT | GCAAGCTCAA | TGCTCGCAGC | CGGCGACTGC | 120 |
| 40 | TGTATACGTG | CTGGCTTAGG | GTGGGGACGT | CCCTTCACGG | CCCGGCCGCC | ATTGGAGTCC | 180 |
| | AGCAAGCGGG | GAATGCTGTT | GTGACTGTAA | CACCCATACA | TTGCAGGCCG | TACATTTCAA | 240 |
| | CGATGGGACG | CGAGTGCGTG | GGGAGCTGGA | CGGAGACCGA | ACGGGGGGAG | CCAGGCGGGC | 300 |
| | GGGCGGCAAT | CCGCAGGCCG | ACCCAGCGCG | CGACCACGCG | GGCGCTAGGC | CGAGGGCAGC | 360 |
| | AGGCCAGAGC | CGCGGGCGCG | GTTTTTCATG | AAAAATATAG | TGGCTACAAG | AGGGATAGGT | 420 |
| | TGGATATACC | AGAACTCACT | CGTAAGAGAT | AATTAAGCAG | ACGAAATGGT | TGTTTGGAGG | 480 |
| 45 | ACGTTGGTAT | CGCGAATCAC | AATAATTGTA | CAAAAGGTTT | TTGANTCGGG | GAGGTCGNTG | 540 |
| | TTGTTGNGGG | NGCNAGACCG | CCNTATTANA | NGAAGNGANG | GNAACNCAAG | ANNNGGGCAN | 600 |
| | GGGGTC | | | | | | |

1044RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCGTGC | CTAGTGGGAC | CTCATGCACC | GCTTGGAAGT | GCCGCCCCAC | CCATGTCAGC | 60 |
| | ATCTTTATCT | TGCTCGACCC | TGTGACCGAG | TAAACAAGCA | CCGTCAATCC | CGTCTCAGCC | 120 |
| 5 | TTCCACATG | GATGTTCAAA | CAGCCAGGCA | TGGTCAATGC | CTCGTTTGTG | AACTATCTTG | 180 |
| | TCGTAAATGT | GTAAGTTGCT | CGAATGAAGT | AGCAGTAAGC | ACTTGGTTCG | GCGGACGAAT | 240 |
| | ATTGTCCGCA | GCGGTTCCGA | GTACAGCAGC | TCTTCTACAC | CATAATTCCG | GCCAAGCAAT | 300 |
| | TCTGTATATG | TCTGAACTAG | ACGCAGGCCT | CTCTCGTCCA | TACTGGAGTA | CACCAAGAAG | 360 |
| | TCCCTATTAT | TTCCGACCAC | CACAAGTTGT | CGAACGGCAT | CAACCACAGG | GACACACTGA | 420 |
| | GCACCTTGGG | ACGGAATGGG | ATTTACTAGC | TCAGCCCTAA | GCATCTTATG | ATGAGGGCTG | 480 |
| 10 | CCCTTAGCTT | GCTGAGTGCT | TCCGGCTGCC | TGCTTGTGGT | TGGTGGGTCC | TTTCTTAGAA | 540 |
| | CGATTGTTCA | AAACCATGAT | GATGGGGTTT | GGTCCGGCCN | GGTGATTGTA | AGATTTA AAC | 600 |
| | CGGTNCCAAG | GAATTGACCN | TGGGGG | | | | |

1044UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTCCTTG | ACCGCGCGTG | GCGCTCTCTT | CTTGAAGGTG | ACACCGTGCA | ACTGCTACTG | 60 |
| | TTAGTATCGG | TCCGGTCTGC | GGCTCCGCTC | CACGCAGCAG | GGAGCCCTGC | TCCGCACTCA | 120 |
| | ACATACCCCT | TTGTGCAAGT | TAATGGTGTG | CTCGCGAGTA | ACAAAGTCTT | TCAAACCAAG | 180 |
| | CATTTCGGCT | GCTTAATTAT | CTCTTACGAG | TGAGTTCTGG | TATATCCAAC | CTATCCCTCT | 240 |
| 20 | TGTAGCCACT | ATATTTTTTCA | TGAAAAACCG | CGCCCGCGGC | TCTGGCCTGC | TGCCCTCGGC | 300 |
| | CTAGCGCCCC | CGTGGTCCGC | CGCTGGGTCG | GGCTGCGGAT | TGCCCGCGCC | CGCCTCGNCT | 360 |
| | CCCCNNCGG | CTCCNNCCAG | NTCCCLACGA | NTCCNNCCGA | TNGNNGAAAT | GTACGGNTTG | 420 |
| | AANGNTTGNT | GTNAAAGGCA | NAAAAGAAAT | CCCNNTNGGT | GGNTTNNAAN | NNNGGCNNNN | 480 |
| | NNNNAGGGAN | GNCCACCNNN | ANNNAGAAAT | TTAANAAGNG | NNNNTNNANA | TNNNTNGATN | 540 |
| | NANAA | | | | | | |

1045RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GTGGATCCGT | AATGTGGGTT | TGTAGGCCAG | AGGGGATTCT | ACGGTGGCTG | GGGGCCATTG | 60 |
| | TGCCCCGTAA | TTAGATGCCA | CCCAATTGTT | TTCACATCCC | AGGCGAAGGT | TCCGATACCG | 120 |
| 30 | CCCACATACT | TGGGTAATTG | ATAATGCCGC | CACATGACGG | GATACTAAAC | AAAGCAAAAGT | 180 |
| | GTCACATCTT | TATTTTCTGT | TGTGGTCAAA | AATCGGGGGG | TAGGCGATCA | ATTGTCATAT | 240 |
| | ACAACACGAA | AGGGGATCCG | AGATTTCTAG | GTCACAGGAC | AGTTTGGGGT | TTTATTGGGG | 300 |
| | TGTCTTTGTG | AAACCATAGG | CACTTGACAT | AGGAGCCCTC | TTTAGAGTAC | AATAAGCAAC | 360 |
| | TGGCAGCAGC | CCTACAGCTT | GGGCTAAACT | TCTCCATTAT | GTGAAACGGG | AAAGACGACA | 420 |
| | ATGCTCTCTG | ACGCTTTCAC | CCCCTTTTGT | GtGGCCCAAT | tGcATNGNTT | CCGNAANTAN | 480 |
| 35 | NNTTTTNTNN | TNGGGNTTTT | TTGGNNNAAA | AAAAACNNNA | AAAAAGGGGG | GGGGGGNTNA | 540 |
| | AAACCAANGA | TNNTTTTNTT | NGGGNNGGGG | GGGGCCCCCT | TTTNTNAAAN | CCNNNCCCCC | 600 |
| | CNNNNAAANN | GGNNNTTNMN | GGNNNAAAAA | TTNNNNNTNN | NTTTTNGGN | NNCCNNNNNT | 660 |
| | NCCCCCCCNA | NNGNCCNNNC | CCNNNNNTTT | TTTTNTNNNA | NNAAANCNCC | CNNGGGNNGG | 720 |
| | CCC | | | | | | |

1045UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTAATAA | CCACCCGTG | TATATTTGGG | CGGTAACTA | TATATGGGAA | TCATATAAGT | 60 |
| | GCTTAAAAAC | ACCTCACCCG | CAAGGGGGGT | ATCTATAAAC | AAGCCATAGT | GTGtGTATCT | 120 |
| | TTGcCTACAT | AGCATCATGA | CTATGTTGCG | CACGCGTCAT | TTGCACTGTT | TTAGCATGTA | 180 |
| 45 | ACTGGCAGAG | CCAGCAACGA | ACAGAGCTAA | TTTTTGGAGC | TTACCATACT | GtTGTCGCTG | 240 |
| | GATGTTGAAG | CaCGGCTGTT | GTGGATAAGT | TTAGAACCCG | TCGCCAGCAC | ATTCTATACC | 300 |
| | TGAAACTACC | AGTTCACGGG | GACATGTTCT | TCGtGGCTTT | GACAGAATTA | TTATTGTAGT | 360 |
| | CCAGTTAGAT | GTaCTACCAT | TGTTGcGCTA | ACATAATCAC | CaTGTcCaTc | TcTGGAAATCA | 420 |
| | CGTgTcGCCA | AGCATATTaA | TGTTtGtaCT | TAAACTCGGt | aCTCCCTtA | TCGaaAGGCa | 480 |
| 50 | TCACGGAATC | GcCCtCaCT | aT | | | | |

1046RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCGCGCGC | GCAAAGCCCGT | GCgCGAGCTC | GAgcaggTTC | TCGAGGTCCG | GGGGCAGCGC | 60 |
| | GTCACACGAG | TAgGCGTAGG | GATAGAGGAT | CTCCTCCGAG | TACGAGTGCA | GGTCCAGGTA | 120 |
| 5 | GGCGTAGATG | TCCAGCTCGG | CCTTCGTCCT | GTTACGCTAG | TCGTTCCAGC | TGCGCGCCTC | 180 |
| | CACGGCCTCG | AACGGCTGCT | GGCCGCTATA | GTCGCCCGAG | CAGGGGTAGG | CGTGCTGGCC | 240 |
| | GGTCCAGtGG | TAGTCGAACG | AGTGGTCAAT | GTCGACGCCA | TCGAGCCCGG | GCATGTACGT | 300 |
| | GGGCTGCCCG | tTCTTGCGCC | ACAGGCGGTC | GTGCGTCCAC | GTGTACGCGT | AGCCGTCTGG | 360 |
| | GtTGAACACA | GGGATCACCA | GGAAGTCGAG | CGCGTCCAGG | tAGCGCGTCT | CCTTGGGCGC | 420 |
| | CCGCCATAC | CGCGAGAGCA | GACGCTCCAC | GACAAAGCAC | GCCGTGCTCA | CGCCAATCCA | 480 |
| 10 | CTCGCGAGCA | TGCACGCCGt | CCGTAATTAC | CACCG | | | |

1046UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCGGGAG | CTCCATcATT | AGAGGGTcTg | gACTTCGGGA | AGACACGCAG | TGGTATGTCT | 60 |
| 15 | GTAACTTTGC | AATTTCAAA | TAATTCCTCT | TTTCATCGTAG | TTCCGGCTGC | TGGGCGATCT | 120 |
| | CCGaCACAAA | CGGCTGAGTC | GCTGACACAA | ACAAAACTC | GACTACGGAA | AACGACTAAG | 180 |
| | CGTCGCAGAT | GCTATATATA | TACAACTTGG | TTCTTAATTA | GGGTAGATC | CTTGCGAGAA | 240 |
| | ACAGACGTTG | AGCTTGTGCA | CTTCACAATT | TTAGTCCCGT | CTCCGAAGTT | TCCAGGCAAC | 300 |
| | ACGAATAACA | ACACATATTG | CCATGGCATC | GGTAACGTTT | AAAGACAATG | CGGAAGTGAT | 360 |
| | AATGATAGGT | GAGCAGGATC | GGAGAAGAGA | GCAAGGtATG | GCCAGGCCCT | GGATAACGGG | 420 |
| 20 | ATTCATCGAC | GCGGATATCA | TGTGGCAAAA | GGACGGtCCG | TAACTCATAG | TAGACATCgC | 480 |
| | CAAAGAGAAC | TTCGACAGCT | TATATTGACA | TTCTGCTCT | TGCTCTACAT | TGTTGAGGCA | 540 |
| | AAGATATAAG | AgAGTATGGt | G | | | | |

1047RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGTAG | ATGTTCCGCA | GCgCTGGCAT | CTTcagGTCC | CGGTACGTCA | GGATGAACTC | 60 |
| | GCCAATGCTG | GTATCCAGCG | TGAACCCGTT | GACGCCCTGC | CCCCTCGTTA | GCATGACGTG | 120 |
| | CGTGGACGCG | CCGTACATCG | CGTAACACGC | TGCCACGATC | TCCCGGCCCG | ACCGCAGCAC | 180 |
| | ATCCTTGATT | GTCCCCTCG | AGTCCGGAGT | CAGCTTGAAA | ATCGAAACGA | TCGTGCCAC | 240 |
| 30 | CGACACACCG | GCCTCCAGGT | TCGACGACCC | GTCAATCGGG | TCGCAGCACA | CCGCATACGT | 300 |
| | CCCACCGGTC | TCCGGGAACA | CGATCAGGTC | CTCCTGCTCC | TCCGACACCA | GCACCTTGAC | 360 |
| | GTTCCCGCTG | GCCTTCATCG | CATTGATGAA | GATCTCATCG | CCCAGCACAT | CCAACCTTTT | 420 |
| | CTGCTGGTCC | CCAGTCGCGT | TAGACGCGCC | GGAGAGCCCA | ATCAGGTTCa | CCAGCTCCGC | 480 |
| | GCGTCTGATC | GTCTGCGAGA | TGAACCTTGA | CGCAAACGAC | AGTGAGTTga | GCAGCAGGTT | 540 |
| | GAACTCGCCC | GTCCGCTTTT | TGGCCGAgCT | GCgCTGCGAC | TcCAGGATGA | AAcCGcCCAg | 600 |
| 35 | CGTAATGATA | TCCGtGTCgA | tAgCCTCTgc | GGAgTCgCGT | CTCTGTGGGT | TCACGGtAGC | 660 |
| | CATTTCTGcT | TGAGTgCGCT | GTGGT | | | | |

1047UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACTCCC | CTCGCTTGAA | ACAATGCcgT | aTAGCGGAAT | CTGGCCGAGC | ACCAAGAAGA | 60 |
| | TCAGCAGCGA | GACGGCTGTC | CAGATCAACT | TCTGGTTGTA | TGGCACTTTG | CGCTCGGGCG | 120 |
| | CGATCACCTC | GGGCAAAAA | GCCTCGAAGG | GTTTGAATAG | ATCCAACAGA | CGCCCACTCA | 180 |
| | TTTCAGGCTC | ACAATGTTTG | TAGGTAGCTT | GCTGGGCTTG | GATTGGCTAC | ACAGTTGGAA | 240 |
| | CCACACAAAG | TCACTATTGG | GCGAGATGGT | ACTCTAAATG | ACTGCAAGGA | GAACTGGTCC | 300 |
| | GTTTCGTTTT | CTGAACAGCT | TAATTGGACT | GAGTTGCAGT | AGCTGTACTG | AAAGGAACAC | 360 |
| 45 | GTATCTTGAA | AAAATTATAA | ATCTCAGTAC | CACGTGACCG | GATaCGAGGT | GCTATTCCAT | 420 |
| | CTCGCTAGAG | GAGCTATATG | CCTAGTCGGC | GTACCCTTGG | TGAGTAAGAA | TAGCTCTCTT | 480 |
| | GGACAATAAT | CCGtGATGAC | CTTATTATGC | TATAAAGCTA | TTTTACATAG | CAATGGATCT | 540 |
| | CCGLGLTTAG | ACCTTTGCGC | CGcCAAAAGA | CCAAGTACAT | CAGCACCGAG | AACAGcAGGC | 600 |
| | AATCGcCAGG | CGCTTGTTGA | GCTCCAgAAG | ACATgCTgGA | TGCAAAACCG | AAGAACgCCG | 660 |
| 50 | nTcGGAGTAc | AGTTGGCG | | | | | |

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1048RP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCGTCATA | GTCCGCCTCG | TCGTATTGGT | TCCTTCTGCG | CCGGCGCTGC | ACCGGCATAC | 60 |
| | CCATCGCGTC | CACCTGCATC | TTGTTCATCCG | CGTCCATCTC | GTCGTCCAGA | AACACCTGGC | 120 |
| 5 | TATCGTGGAG | CATCCTGTCC | CGCGCATTTGA | GCTGCGCGTC | GATCCGTGCG | CGGTCCGCCA | 180 |
| | ACGACAGCTC | CTCGTGCTCC | GCGTCGTCCA | CGCCCTCATT | TTCCATAGAAG | TCCTTGTGTC | 240 |
| | GATTGGCGGT | ATAGTCCGCG | TACATGTCTGT | CGCCACCCAG | GTCGACCTCG | TCTATGCGCT | 300 |
| | CTTCTGCGTC | ATCCAGGTCCG | TCTTGCAAAC | TCGATGCGCT | CGTCGCCGTC | GGTAATCGGG | 360 |
| | GTTCTCGAAG | TCGATCTTCG | TCCCGGGGAC | CCCAGGGGGG | ATTATTCCCC | CATACGGGAA | 420 |
| | GCGGGGCCCG | CTCCCAACTT | GTGGGAAGAT | AGTGGGTGCT | CCGAGGTTCT | TTTGACCTGC | 480 |
| 10 | TGTAATANTC | CNCTGTCTTT | TTGGGTTCAA | CTNTAGCCCT | CNGGGCCNGG | TTNACCCCCC | 540 |
| | ATCCCGTATG | GAAGCANCCA | ATAACAAATG | CTCCGAAAAA | NTTTGTTNTT | TTCCNATTTT | 600 |
| | GGAANAAGNA | AGTTCTNANA | ANGAATTTTN | NANTTNNN | | | |

1048UP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| 15 | GATCGCGCTC | CTCAGCCATG | GCTTCCTCTA | ATAGTAACAC | ACGCCCTGCT | TCGTAGTCGT | 60 |
| | CGAGGTGCAC | ACCTACCCGC | GCAAAATAATG | CCTCATCTGA | CAGCTGCACC | TGGTAGAACT | 120 |
| | GTGAGCACCG | GAAGTGCAGC | TTGCTGCAGA | AGCTTGTGAG | ATATTTGTAG | GGGTGTGTCT | 180 |
| | GTGTCAGAAA | GTTGCTCACC | CGTCGATTCT | CGTAGGGATC | ACGGATACGA | CCTTGGCTCT | 240 |
| | GCCCGCACAG | CGGGTACCCG | CATAGCTTGT | TPAGATTGCG | CTCATCTATC | AAGTCTGAAT | 300 |
| 20 | ATGTGCGGCTT | GGGGAAAGAA | CCTTCCCACG | TATPTTAGTG | TCTCGGGTGT | GCATTCTTGT | 360 |
| | CTTGCGAAGA | GCAGTTCGGA | GCAATTTCGAC | CGTCAGAAGG | TCCCCCTCCT | TTAGTGAAAG | 420 |
| | NNGCGATGTT | GGTGATAGGA | ACTTAAAACC | CGTPTTGGNT | TNTCNCAATA | GNAGCCANNA | 480 |
| | CCTTANGTAC | GGTNTNCCGT | TCTTAACCCC | GCCGGGTCCC | NGGGNGGTTT | CAAGTTCTTG | 540 |
| | GNCGGANAAG | GTNCCGNTNC | CCGGGGGTNC | GCCTACTTAA | GNGANGCCAN | AAGGNAAAAG | 600 |
| 25 | NCCCCNGAA | AAGTGGNTTT | T | | | | |

1049RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| 30 | GATCTTTCAG | CTTTGGCGTG | CTATGGCAGG | CAGCCTGCGC | CTTTATGGCC | TCAATGCCTC | 60 |
| | GCTGACGACT | CTCATGTGCC | TGTGGGCAAT | CTGGTCACTG | GGGTACTATC | CAGCGACGGG | 120 |
| | ACTCCCTATG | GCTGTTGCAG | ACAAAGCGAA | ACTCAGCATG | CTCTACGTGC | CCTACTTCCT | 180 |
| | GATTCTCTTG | CGCCTCGTCT | TTGTGTGAGG | TCTGGAGCAA | TGCAGAAAGTG | CAACACTCTA | 240 |
| | TATATAATCA | CCTGACTATG | TACCTATTTT | TGGCATAGCA | CGTTACGTTT | TGTACAGATT | 300 |
| | CCAGTCAGTT | AGCTGCCTCG | AGCAACCGGT | GAGCTCCGAA | AAGGGAATTC | GCTACAAGGT | 360 |
| | CTTAGCGCAT | AGNCCTGCAA | CTGGCTTTGG | CTAGGTCAAT | TGGTTTTCTT | GGAACCANTC | 420 |
| 35 | TTGGTATAGA | CTCTTGCGTA | TTGATCGGGC | TGAGGAGTGT | TTTNGNGGNA | GNCAAAACACC | 480 |

1049UP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| 40 | GATCGTCTCC | TCGGCGACAG | CGCCTTCTAG | ACCCCTGACG | GGCGACACCT | TGATGCTGCT | 60 |
| | CTCGCTCTCA | AACGTACCCA | GACCCTTGTA | GTAGGTGACG | CCGTTTTTCT | TGAAGAGCAT | 120 |
| | CTCAATACCG | CCAGTCAATT | GCTTCACAAC | GGTGTCTCTG | GCCTTTTGGG | ACTGGGGCAT | 180 |
| | GTTCACAGTG | ACCTCGCCCT | TGACGTGCGAT | ACCGCGCTGC | TTGGCATCGA | GTTGCATCTG | 240 |
| | GTGACAGAGG | TGCGAGTTGT | TTAGCAGCGC | CTTGGATGGG | ATACACCCCA | CGTTCAAACA | 300 |
| | GGTGTCACTT | AGACGGGCGG | GCTTCTCCAC | ACACGCGGGG | TGAAAAACCA | GTTTGTGTGA | 360 |
| 45 | GCCTTCGATG | GCCGCCACNN | TTAACCACCG | GGGACCNCCA | CCCATCAACC | ACAACGTCCG | 420 |
| | GGTTTTCTTT | TGTTGGGAAT | TCAACCAGGC | CCNCTTTNNT | GGGACGACCN | CTTANNCC | |

1050RP

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|---|-------------|-------------|-------------|------------|-------------|------------|-----|
| | MNNTTTNTGG | TGGGGCGTGT | AGANTAGTGG | TCGGGGNGCC | GCTCCACATT | CTCCATGCTC | 60 |
| | ACCACCACGA | CAGACTGGAA | GTACAGGAAA | AGCGACATTG | TCGTCCGAGA | GATGTGCGAC | 120 |
| 5 | GCGGCGTTTCG | AGTTCCCAAA | AGCAGACAGC | GTTGCGGACG | CCAGCAGTCC | AAGCCCCGCA | 180 |
| | ATTGTGCGCCG | TCGCCCCACTT | CACAGGTGTT | TGGGCCACGG | TGCGGCCGTT | CGTGAAGTGC | 240 |
| | GTCTGGATGc | ACGACACCTG | GTCGTTTCGAC | TGGGTTTCGT | GTACCATCAC | CTTGAGGTAG | 300 |
| | GCGTCATTGT | CCGGCACCTG | GTACGtCACG | CCGGGAATCT | TNNTTGTtGTT | CTCCGcGCTC | 360 |
| | ACATACTGcA | CGGcCTGGAT | CTgaaTGTCa | CCGGGtGTCA | CAGGAcAAAA | CTGcTTCTAG | 420 |
| | cCGATCCCAT | ACATgTcCTT | CGc | | | | |

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1050UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCTTTTCG | TATGAAGTAT | GCAGCTGTCC | ATATGCTTAG | TTAACTTCTG | CCCAGCTATT | 60 |
| 15 | TAAGCTGCAA | TTGAATCGGC | GGTGACTCAG | CTTGCAAAGG | GTAGCAGAGA | GGACGCGATG | 120 |
| | GGTTTATTCG | GAAAGGATAG | AGGTGAACGG | ATAGCTGAGT | TTCCGTGTTA | CCTGCTAGAG | 180 |
| | ACCNGAACGC | ATCTGGTGCC | GNTGNCAGGG | GATTCTATAC | AACCTTGTA | TCGAGCGGAC | 240 |
| | ATATNGCGAG | CGGATACTAG | GGCAGNTCCC | TGGGATAGGT | GAGGCTNTAG | ACGGGGCGCT | 300 |
| | GACGGGCGCT | tttGAGGCCg | CAGAGGTACC | CCCGCGGGTt | GCGGAGGTGA | TGAAGGCGTT | 360 |
| | CCAGGAGCGG | TACGACTCCC | GGGGACAAAA | ACGCAGGCCC | | | |

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1052I2

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTGGGTT | GCGCGTGAAG | ACCACCAATG | CGATGCACAC | GAGTATCATG | ATCAGCAAGA | 60 |
| | TTAAAGAAAA | GACAGCGTTC | AAAATAAAAA | ATACCCATGC | CATAATGGAG | CTGACGCTTG | 120 |
| 5 | CAGGCTGTCC | AAAGAGCCCT | GAGAAAAATA | AGAAGAGGAA | CGAATTAACA | AGAGTAACAC | 180 |
| | TGGATATCAT | AATGTTTCAG | ATGTTAGTCG | CGCGGTGAG | GTACGGCCTG | CATTTAGCCA | 240 |
| | GAGCTGCGAG | GTATATTATT | TCAATGACAA | ATAGAGCGAC | GGCCTGGGTT | TTACCGGAAT | 300 |
| | TGTGGGCAAA | TGCAATAAAT | ACCGCTTTCA | ACAAAAATATG | CGCGAGGATC | ATGCAGGACC | 360 |
| | ACCAGTAGTG | TGTCGCACTG | TACATTGTGT | AGAAGAAGCC | GTATTTGTGT | AGCACATTTT | 420 |
| | CATTGCCGCA | TAGAATGGCA | GCTGGGTTCT | AGTGACACCC | AATGGAAGCC | CTTCCACNGT | 480 |
| 10 | AGATAGTGCG | GCAGGCAGCC | CANCCCATAA | TTGACAAGAT | AAANGTNGAG | CTAAGNCTGC | 540 |
| | CAGAACGACC | NCCGCCGGGG | ATCANCGTTC | ANTGATTCCC | CACCAGCAGA | GATCGCNATT | 600 |
| | GANTGACCCC | GGCAGTTNTN | CGCAA | | | | |

1052I1

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTCCGCT | TCAAACCAGC | TAGGGACGAC | CGGAGGTCGT | TCCAGAGAAA | GTCAACAATC | 60 |
| | AATATCCTGG | GTAAAGCTAG | CACCGCCGAA | CTACTTGCTC | TTGGCACCAC | CGCAAAGGCA | 120 |
| | CACAACGAAA | ACTGGGAAGA | TGAACTGAAG | AAACAACAAA | CGGTCAACCGT | TGATGACCAG | 180 |
| | GTTGTTTCGC | CAGAAGATTC | GCCCTTTGCA | GAGCCAGTGC | AGGAACCAAA | GACCTCAGTG | 240 |
| 20 | TCCGGCTACA | TCAAGAGGAA | ACTATCCCTC | AAGCGTGATA | AATCCACAAG | ATCCAATCGT | 300 |
| | TCGCAATATG | ATAGGTTACA | GGACTAGATA | TGGATGTTAA | GTATAGAAAA | ACTGTATATT | 360 |
| | ATTTGACGTG | CTGGGCGTTA | CGGAAACATA | TAAAGATTTA | ATTACTCATG | GGCGGATGGT | 420 |
| | ATTTTTTCAT | GGGCCCCACT | GGACTCCATT | TGGGCAGTTG | GAGGACGAAG | TAGGAACCCA | 480 |
| | ATTGCTGGTT | ACAAGCGCTC | GGTTTCATGT | ACCTATACA | CAAGTATCCA | TTATTNGGGC | 540 |
| | TTATTGATTT | GTGTCNTNGG | GCCCGACTTT | TANCTTTCTC | ACTGGGGGAN | GTCCT | |

1052RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGCGGAC | GCGTGGGCGC | AGAACCCTGGC | GTGGAGCATG | GGGCTGATCC | GAGTGGAATT | 60 |
| | CATGCAACGC | ATCTTCCGGT | GGTACGTCCA | GGCGAGCGGC | GGCGAGCCGT | CGCTGCATTT | 120 |
| 30 | GACGTCAACG | ACCACGTCCT | TGCTTGCCCA | ACGCTCACTG | GATGCGCTAG | TGGGCCGGCC | 180 |
| | CGTGAGCAAG | GCGACACAGT | CGCTATTGTC | CAGCACACAC | ACGATGATCT | TCAGAGGGAT | 240 |
| | CCGTAGACTG | GCCTACCGTG | CGAACATAGA | GAGCTCATCG | GTTGTGTGTA | CCGGGCTAAC | 300 |
| | GTTCTTCCTT | CTGTTCCGGT | ATTTGGATTG | GCGTGGCGGT | TTACATTTGT | TCAAGCGGGG | 360 |
| | CTACTCGGAG | CTGCTTATCC | CGCATGAAGG | TCAATGAACC | CAGGTCCGGG | TCCCTAGACT | 420 |
| 35 | TCCAAGAAAA | ACGTGGGTGA | TTGNGCTCAA | AGGTGTTCTT | TTGGGGTANA | TCTTCCCCCG | 480 |
| | NGTTCA | | | | | | |

1052UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCCAGCTC | TTGCGCGGTA | TGAACTTTCC | CGCCCGCACC | GGCGCCTCGC | ACACCGAAAT | 60 |
| | CGACCGCACC | TCCGTCCTGC | TCTCGTAGTT | CCAAATTTCC | GCGCGCCCCG | AGTACAGCGT | 120 |
| | GATCAGCACC | CACGGCTCGC | TCGGGTGAAA | GTCAATGCCC | TTACCCCTGT | CTGTCTCTCGA | 180 |
| | GACAAACGTT | TTCTACTCAC | GTTAGTACTT | GCTCCGCGCC | CTGGATAGCA | TGGTCGAGCT | 240 |
| | CTGCGGGTCC | GCCCCCTCCG | TGGGTGGCAA | AGATGGTCTT | CAAAACACACC | GTAATAGGCC | 300 |
| | GTGCGCGACC | ATGCAGGCCC | CATTCTGCTT | CGGACACACA | CATACCTTCG | TTTCCAAACT | 360 |
| 45 | TCATTGGTCC | CCACTTGGGA | TTCTTAGTAG | CTGTTCAACT | CGGCTTTTGT | GGTTCTTGTG | 420 |
| | GAAAAATAAT | ATTCCCNNGG | ATTATTTTAA | TAGGGGTCCN | TTTTNTTT | | |

1053RP

| | | | | | | | |
|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCATAGTG | ATTGATATCG | GGAGAGGGTT | TCgTaTGTGA | CAGCCTGTAT | TCACGTATCT | 60 |
| | GGTCCCTTCAC | TTTCATATATT | TCTTGTGGGA | GCTGTGAATA | TATCTCCATG | CGTTCTCTGT | 120 |
| 5 | TCCATTTTTC | GTGCATTTTG | TGGAATGCAG | CCCACCTTCTC | GTACGTTGAA | GTAGGCTTGG | 180 |
| | GTACTAACGA | TCCCTGAACA | GGGAGGAGGC | ATGTTGCGAG | GGAGAATATT | AAGGAATCAT | 240 |
| | ATCTCATTTT | TACGTCTGAG | ATAACTAGTA | CTAACTGCAA | TGCGGCGTCC | AAATACCCGT | 300 |
| | CGTAGTAATC | GTATAGGAGC | AAAGCTTCAT | CTCTTATACG | ATGTGGAGTT | GATTCAGTCC | 360 |
| | ACTGCAGCCC | TTGGTATTTA | GCCAGCATTC | CATCATATTT | GGACTGATAA | TATTCGAAGT | 420 |
| | TCTTCCACGC | GTCTTATAC | GGATCAATTA | CTGATTTTAC | AACATCGAGT | AATATGGAAG | 480 |
| 10 | GATATAACTC | TGGATTGCCC | TGTATGACTT | CCAGCACGCC | ATGGAACATA | TcCCGAATGC | 540 |
| | CGTCGCGGCA | CTTGGAGACT | AACTTTGGCG | TGTATATCTG | CTCTTCGACT | GtCCCATGGt | 600 |
| | TGAGGtAGGt | ATCTTCAGGT | aGAATGAAGT | CAATGAGCGA | TAAACTGgCT | TGCTTGAATC | 660 |
| | gtcCCAAAGA | GT | | | | | |

1053UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTCGGCT | CGcTGCTCGC | GCTCGAGCCC | TACTGGGCAG | AGCGCTACCC | AATAAACAAAC | 60 |
| | GCCCTAAATCG | GCGGTGCAGA | TAAATTCAC | AAGCTCTACT | CAACCGATTT | TGCGCCCATC | 120 |
| | GTGCGCGCCA | GGACTTTCGG | CTTGAACCTC | GTGACAAGC | TTGGACCGCT | GAAAGACCTC | 180 |
| 20 | ATAATGGCAA | AGGTCAGCGG | CCCAAATTAA | TAGTCACGTG | TACATAAAGG | TTTTCTTAAT | 240 |
| | AGCTATACAG | CTTGGCCGCG | TCTTCAGCTT | GCAGCGCGCA | ACCGGCGTGC | AGCCATGAGC | 300 |
| | GTCTTACTGG | AAACTACCAT | TGGCGACCTT | GTAGTAGACC | TGGACTACAA | GACATGCAGC | 360 |
| | GCCGAGAGCT | ACAACTTCCT | CAAACTCTGC | AAAACTCGCT | TCTACGACTG | TCAGTGCATC | 420 |
| | TACCGACCTc | CATCTgAaG | GCTCAGCACG | CCCTcGGCGA | TCCACAGGTG | GgCTTTGTCAT | 480 |
| | TCCGCACGGA | TTTGCTGTGA | CACAATACCT | CGATCGAAgG | CCTGCGCGAc | ACACGGGCGG | 540 |
| 25 | TCACCCCGAA | GCTCATTGAA | GCCTcCGTTG | CCGCTcAACC | CGCAGAGCGC | TTcGGACAGG | 600 |
| | TCgCCCTTTG | | | | | | |

1054RP

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|----|-------------|-------------|------------|-------------|-------------|------------|-----|
| 30 | GATCCGTGCG | CGGTCCGccA | ACGACAGCTC | CTCGTGCTCC | GCGTCGTCCA | CGCCCTCATT | 60 |
| | TTTCATAGAAG | TCCCTGTGTC | GATTGGCGGT | ATAGTCCGCG | TACATGTCTG | CGCCACACAG | 120 |
| | GTTCGACCTCG | TCTATGCGCT | CTTCTGCGTC | ATCCAGGTCTG | TCTGCAAAC | CGATGCGCTC | 180 |
| | GTGCGCGTGC | TTATCGGGGT | TCTCGAAGTC | GATCTCGTCC | GGCGACCCCA | GCGGCGAATT | 240 |
| | ATTCCCCATA | CGCGAGCCGC | GCCCCGTCCC | AACTTGTGGC | GACGATGGTG | GGTGCTCGTA | 300 |
| | GCTCTGTGAC | CTGCTGTTCAC | TACTCCGCTG | CTCTGTATCG | TTTTTCATCTC | TAGCCCTTCT | 360 |
| 35 | GCGCCCGTGT | GAACCCCTCCA | TTCCGTTATG | CGAAGCCATA | CCCAAAATTAC | CAAATTGCCC | 420 |
| | TTCTTGAGAT | CTTGAATACT | ATCTCCACAG | TGTTTGACAG | ACGCGCAGCT | TCTcACGATA | 480 |
| | CGAAATATCG | TGAtTTTACG | TGAcTTTCAA | TACCTCATTT | gGATTGGATT | GGtGAAGCAT | 540 |
| | AGATTTTTCAG | TcaTATTGAA | AAATTATTTT | CAAAACAGGGC | AATTGGATGA | GCTG | |

1054UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| 40 | GATCGTCCGG | TTgGgCagGG | CTGCCCAACG | AAGCCTTGAC | ATGTCAAACC | GCTTGAAAGA | 60 |
| | AGAGGTGATA | TGGGCCACCC | ACGAGGCCAA | GTGGGAGCAA | CTGCTCGCTA | CTGGGACCCT | 120 |
| | TCCCCCAGAT | GGGGCCAAAA | GCGACTGGAA | GCCTGGCCGA | GCATGGCTGG | AACCATATGA | 180 |
| 45 | GGCCGCGTTT | CGGAACCAGC | TTGCAATCG | CAAGCGCACG | AGCCAGAAAG | TCAAGCGCTA | 240 |
| | TAGTGCCCAA | ATCAGCAAGG | TACACCTCCC | GTATTACATT | AAGTGCAGTG | CTGCTATGCA | 300 |
| | TACCCGTGCG | GCCAAACGCT | tCGAGTGTTT | CCAGAAAGAG | CTCCACACCG | TTAATCCATT | 360 |
| | CGTTCCAGGC | AGAGATCTCG | GtTCCCTACT | CTCCAAGTGG | CGAATGGTGA | ACGGaAAAAA | 420 |
| | CTACTATCGC | TGAATGTATA | TAGtTTATAG | TCCTATTCTT | TCATcAGGtC | TCCCAGCAGA | 480 |
| 50 | GGCGGCCGCT | CGGTCTcAAC | TATGCGCACC | TCGCTcAGCC | ATTGCGCTGAg | GTCTTCTGTA | 540 |
| | GTTCG | | | | | | |

1055RP

| | | | | | | | |
|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCCGTCGC | CGGTCCGcCA | AcGACAGCTC | CTCGTGCTCC | GCGTcgTCCA | CGCCCTCATT | 60 |
| | TTCATAGAAG | TCCTTGTTGC | GATTGGCGGT | ATAGTCCGCG | TACATGTCTGT | CGCCCACCAG | 120 |
| 5 | GTCCGACCTCG | TCTATGCGCT | CTTCTGCGTC | ATCCAGGTCG | TCTGCAAACCT | CGATGCGCTC | 180 |
| | GTCCGCCGTCG | TTATCGGGGT | TCTCGAAGTC | GATCTCGTCC | GGCGACCCCA | GCGGCGAATT | 240 |
| | ATTCCCCATA | CGCGAGCCGC | GCCCCGTCCC | AACCTGTGGC | GACGATGGTG | GGTGCTCGTA | 300 |
| | GCTCTGTGAC | CTGCTGTAC | TACTCCGCTG | CTCTGTATCG | CTTTCATCTC | TAGCCCTTCT | 360 |
| | GCGCCCGTGT | GAACCCCTCCA | TTCCGTTATG | CGAAGCCATA | CCCAAATTAC | CAAAATTGCC | 420 |
| 10 | TTCTTGAGAT | CTTGAATACT | ATCTCCAGA | TGTTTGACAG | ACGCGCAGCT | TCTcACGATA | 480 |
| | CGAAATATCG | tGAtTTTACG | TGACTTTcAA | cACCTcAtTT | TGGAtTGGAT | TG | |

1055UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| 15 | GATCGTCCGC | TTgcGCAGGG | CTGCCCAACG | AAGCCTcGAC | ATGTCAAACC | GCTTGAAAGA | 60 |
| | AGAGGTGATA | TGGGCCACCC | ACGAGGCCAA | GTGGGAGCAA | CTGCTCGCTA | CTGGGACCCT | 120 |
| | TCCCCAGAT | GGGGCCAAAA | GCGACTGGAA | GCCTGGCCGA | GCATGGCTGG | AACCATATGA | 180 |
| | GGCCGCGTTT | CGGAACCAGC | TTCCAAATCG | CAAGCGCACG | AGCCAGAAGC | TCAAGCGCTA | 240 |
| | TAGTGCCCAA | ATCAGCAAGG | TACACCTCCC | GTATTACATT | AAGTGCACTG | CTGCTATGCA | 300 |
| | TACCCGTGCG | GCCAAACGCT | TCGAGTGTTC | CCAGAAAGAG | CTCCACACCG | TTAATCCATT | 360 |
| 20 | CGTTCCAGGC | AGAGATCTCG | GTTCCCTACT | CTCCAAGTGG | CGAATGGTGA | ACGGTAAAAA | 420 |
| | CTACTATCGC | TGAATGTATA | TAGGTTATAG | tCCTATTCCCT | TCATCAGGTC | TcCCAGCAGA | 480 |
| | GGCGGCCGCT | CGTTCTCAAC | TATGCGCACC | TcGCTCAGCC | ATTCGCTGAG | GtCCTTCTGT | 540 |
| | AGTTTCGTAC | CCG | | | | | |

1056RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 25 | GATCATCAgC | GCGAGCTTCC | aATTGTGGG | CTTCTGTtG | ACATACATCC | TCCaCACCTC | 60 |
| | GCATGCGCGC | CGCCAGgGCT | CGCGCTTTGG | CCTCGGCCTG | ACCTTCACGG | GATACGGGTa | 120 |
| | CAGCATGATT | CCTAgCGACg | TgACGAgCAA | GGTCGGcAAg | GACCGCGACa | TCgCgCGCGT | 180 |
| 30 | gGAGCTGGAc | GACCCCAaCG | AATTCGAAGa | TTCCGACCTG | TACTCgCCGC | TGGCGCAgCC | 240 |
| | GGCGCAGGAC | CGCTTCGAAT | CacagCTCTC | gCACGGGCTG | ATGGAAAAAC | GGCGCAGaAT | 300 |
| | TCCGGCGCTC | GCGATCGTgC | tagAgATTTT | GGGGCTTgCa | ATTATGTGCa | aaAGCgTGTA | 360 |
| | cgACTACAtt | GTGGTCaAGC | GCATgGAGCg | CCGCACTcTT | ACTGcGAgCG | ACAGCgAgAg | 420 |
| | CCcCGCATAG | ATGTTcATAT | aACTTATATa | TCCCTCATTC | ATCTTCGcTT | GGGCCCCgTC | 480 |
| 35 | TAGGGAGCAG | AcCAGcAGTT | TCTTCGTtCG | CCCTNAaGTC | GATgCgCCA | GAGAGACCAG | 540 |
| | ACGCCCCAGC | GCGGTa | | | | | |

1056UP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|------------|-----|
| 40 | GATCCAACCC | AGGACTTCTC | GAAAGATAGA | ACTCCGAACA | CAGCCACCGG | CACGAACTTC | 60 |
| | TCATCAGCTA | GCAGCAATAC | TAAGCAGACC | TTCAGCGAAA | ATGAAGAAGA | ATCTGATGCT | 120 |
| | GAGTTCGAAG | ATGTATAGTT | GTACCCGTAT | ATTGCATTTT | TTTTTTTTTT | TTTTTTTTTT | 180 |
| | TTTTTTTGGA | gATGTCAAAA | GCTCATCTCA | ACTCCATGAC | CAGCCAGTAG | TGACTAAAGC | 240 |
| | AGTGTGTCTA | GTTCTTCTAA | GTGATTTTAA | GGACTATGAG | CTTTAATGAg | AAGGTGAAGT | 300 |
| | GGGTACTAGG | CACTGCTGTT | GCGACTCTAG | TTACGATAAA | GTCTGTGCGAA | GCCGTATATC | 360 |
| | GCCTCTATGC | AGCTAAGCAG | AACACTAGCA | GGAGCATTTC | TGGGGAgGAg | AAgGACGTaA | 420 |
| 45 | GA CTGGCCAA | ACGGATTCTG | GAGTCTAGGG | CGTaCGATGA | gGAATTATaT | CgGGAGCAGT | 480 |
| | TAgCTCGGAA | CTACgCaTTT | TGGGCGaAgA | CGGTaTgGCa | CGACTACaGG | AACAGTACTC | 540 |
| | ATATgGTGGG | | | | | | |

1057RP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCAGGGCC | AAATCACTGC | TAAGTACAAA | CACAAAGGGC | CAAGTATTAA | GGTGAGAGAG | 60 |
| | CGTTACAGGT | GCATTGATAA | TACCGCAGGT | ATATATCAAG | GCGCACAGTG | AACACATTCT | 120 |
| 5 | GCAGACGATA | GATATGTCTG | AGACGAAGTA | GGTTGAGATA | TTTACGCACA | AGCCTCATT | 180 |
| | GTAAGATAAA | TGGTCATTAC | TAACGTTTTT | GGGTTTAGCA | GCAGCAGGCG | GAGCAACAAC | 240 |
| | GAGGGGCAGG | AGCACGGTGG | TGGTGGACAG | GGTCCAGGAG | TCGAGGATCG | CGGGGAGCCA | 300 |
| | CGGGCCAGGG | CGAACACGGG | CAATGTGACT | GTGGCAATCC | AGTACTCGTG | GCTCCACGAC | 360 |
| | ATGAGGAAATG | TCGGGGGAGA | GGGCGAGGAA | CGGGACAGGG | CCCAGGGGAG | AACGGAGATA | 420 |
| | CGTTCTGTGAT | GAGCTTCACG | GACGTGCCGG | ACTCGACGTC | GAACGATCGG | TTTCAGGAAG | 480 |
| 10 | TGATCGGCAT | TGCGGCGCAG | TTTGCAATTGA | GCCGCGTGCG | GCGGCGGATC | AGCCTCCTGC | 540 |
| | GGGGGCTCTC | GAAGGAGTCC | TTTGAAAACT | CCCTCTCAGG | AAGCTCAGCG | AGCTGGACAG | 600 |
| | CGAGCTGTGC | AGTATATGCT | ACGACGACTT | TGAAGACGAC | ACGTCGATCG | GGT | |

15 1057UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTAGGGG | TTCTTCTTGC | CGCGCTACGG | GCGCCCCTCG | CAGCCTCGCG | CTGGCTCCCG | 60 |
| | CGCGAGAGGG | GATCGGCAAG | GCTCCTCGCA | GCCGCACACT | GCGTCTATGC | CTGGACCGTC | 120 |
| | CGGCGAGCCG | GACAGCCGAG | GAGCAGCCCC | GCGATGTCTG | TCTCCCCGGC | GGCGCTTACT | 180 |
| | CTGGGGCTGG | TGTTGAATTT | TCCTAAAACT | GGTGAATTTG | TACGGGCTCG | CTGGAGCCCG | 240 |
| 20 | CGCCTGGCTGA | TTGTACACGG | GAATACCGGA | TCAATTGGAT | GGGGACGCCA | GTGTTACCCC | 300 |
| | CGAAACCGTG | CGCAGCGGCT | GGCGGGCCGA | GGGCTGAGGT | GCCGCTGCCG | CGCAAGGCCG | 360 |
| | ATTTGCTGTG | GACTGCAGAG | CTGCAGGAGC | TGTTGAAGGC | GCAGGACAAG | TTGCAGCTGT | 420 |
| | ACGTGGCGGG | GTTGTGCGAG | AGCGAGGAGA | CGCAGAAGCG | GGTGGAGCAG | CAACGAAAAC | 480 |
| | AGCTGGCTGA | AATACGGGAA | ACGTTTGGCG | GGCTGGAAGG | GGAACGACAG | CGCGTGCAGG | 540 |
| | AGCGGCTGGA | CGGGTATCAG | AGGCTAATGT | TCCGGTACCA | TGAAGCGTGG | CAGGCGGTAR | 600 |
| 25 | ACGGGCGTGC | CGGGCCCGTT | ACAACGACGG | GTTCTGCCGG | CGCGGCTGCA | CAAGAAATGC | 660 |
| | GCGCTGCC | | | | | | |

1058I2

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| 30 | AAGCTTGCAAT | GCCTGCAGGT | CGACTCTAGA | GGATCTTGCA | AAGTATGGCT | TGGTAGTGTG | 60 |
| | GTGATGGTTA | TCTGCAGTTT | CAATTGCTTT | GTTAGTTAGT | GTATCACATT | CTTCTGGCTT | 120 |
| | TGGCCGATTA | GAGTGCCTGG | CCTCATGGAT | GGGGATCTCC | GGTGTATACA | CGTATATTTA | 180 |
| | TTCTCTTCGC | CCAAGTGGCG | GAGTACAATT | TTCTCTTAGC | TGGACCTATT | TCGGTTGTAT | 240 |
| | TTCACTAGTG | AAATAAACT | ATCAATTAAAG | TACAGCTTTC | GTATGACTCT | GCCACAGGAT | 300 |
| | GAGAGCAGAC | ACTCTGCAAA | GTACCGGATT | TCAAATAAAT | GTTTAGGAAT | AAAATCAAAG | 360 |
| 35 | GCGTACAATT | ACATAATTAT | AAAATGCTCT | CGTAGCTATG | TCCTTCGGGT | CTTTTTTTAA | 420 |
| | TCTTAAAGTG | AACATCGAGT | CTTGCTCTTC | TTAGGTGTTT | AGATGACAAG | CTTACATGCC | 480 |
| | TGCNGNNGNN | AAACAGTTNG | TGGAATCCCT | CGGATCCTCN | CCANGTAGNA | AGGNANTACG | 540 |
| | NNCAGCAGAG | TCATTACCNC | NACCCACCGG | CTTGCCANCC | NANTTNCCTN | GGNNGNAGNG | 600 |
| | GGNNGGNGNT | TGNACCNANN | TTTGNMCCNT | NGCC | | | |

40

1058I1

| | | | | | | | |
|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTCACA | TTGCGATGCA | GGTCTTCTT | GTTTTTAGTA | GCACCCCTCCG | GCGCCTTGTT | 60 |
| | GGCCTTCAAC | TTGAGTTTAT | CCGCACTTGG | CTTGATAAGA | CCAGCTTTCA | AGTACACCAT | 120 |
| 45 | GATGTCGTGC | TCATCACCGT | GCTTAAAGCA | ACAGCGCTTG | CCATAGCGGC | AGTAGCCTGT | 180 |
| | CTTACTCCAA | TTGATACATG | GCTTCGTGCG | GAATTTGTCC | GACCGCTCCT | TGAACCTTAA | 240 |
| | CTCGTGGAGA | CCATGGGCAA | ATTGGCACTT | GTTATCGTAC | TTGCAGGCCC | CCGTAGTCGC | 300 |
| | AAATGATTTCG | CATAACTCTG | TCTTGTAAG | CATCTTGTTG | ACCTTCTCCT | GCGATGGCTG | 360 |
| | TGGCTGCTGC | TGTGGGGTGG | CGGGGGCGGG | GACTGAACCC | GGCAAAAGTT | CGGCTCCGGC | 420 |
| | TGTGCGCCTG | CTCGCCTTGG | GCGCTCGGGT | CCTCCCGACG | GATGCTGCAG | GAGCGCAGGT | 480 |
| 50 | TTTCGGGCGT | CAGGGTAGTA | TCCCAATTGGT | AGGCCGNTAA | TGAGAGTTTA | TCGCCACCTC | 540 |
| | NAAGGTAGGT | TCCCCGTTC | GNAGGGCCAA | GGGNAATCAN | TNGCCGCCCA | AACCGTNAAC | 600 |
| | CNCCCCCNCC | CNGC | | | | | |

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1058RP

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | GATCATTCCTT | GAGAATGCTC | ATAGTTATGG | TTTAACGGTT | CTTCAAACGG | AAGAGTATCT | 60 |
| | TCAATTACAG | AGTAGTTTGG | AGAGAGAACA | GGTAACGTCC | TACAACATTG | CCGAGAAAGC | 120 |
| 5 | AACTACAATT | GGCTACGTTG | CACCTCCAAG | AACCGAGTAC | GATGAACTTG | TAGCTTCGCA | 180 |
| | AGCTTCTACG | AAAGAACAGA | ATTTTGAGGT | ATACGCGGCG | GAAAATGGCA | AGGTCATAGT | 240 |
| | GGATAAATCT | GAGTATCACG | ATTTGAAGAT | CAAAGCTATC | CCAGTGATTT | CACCATTGCC | 300 |
| | TCAAATGAGC | AAAGAGCAGA | TGGTTGAAAA | GGCCAAGGAA | CTTGGAATGG | TAGCTTTGCT | 360 |
| | CCATTGACGA | GTATGAGAAG | TTAAAGAGCC | CTATTTCCTG | ATAACGCTTT | GGATTGCAAC | 420 |
| | AGCGAAGGAC | CGCGGAAAGG | TTGGTCTCCT | AAAGGAGGAG | TACAACCCTT | TATTG | |

1058UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTGGCGC | CCCGACAGCC | TGCCCAGGTG | CGCCTGCATC | CGCCGCTCCT | GGTCGCGCTC | 60 |
| 15 | GTCGAGCCCC | AGCTCCTGCC | GGAAGCTAGC | CCTCCAGCTC | ATGTACGACT | CATGCGTTAC | 120 |
| | CTTCGTTCCG | CGGAATTTCT | TCTGCTCTTC | GAGCTCGCGT | TCCGCTAGCT | GCCGCTCGTG | 180 |
| | CTCCTTCTCT | CGGCGCTCAA | GCTCCTTCTG | AAACCACGAC | TCCGCGTCCT | CCTTTATTGA | 240 |
| | CGAGATCAGC | GCAAAACACA | TCTGTATTCC | CAGCAGGATG | TCCTCCTCCA | CCTGTCCGAT | 300 |
| | GGACTGGCTT | GGAAAGACCG | TCCACCTCGC | CGGTCAAAAT | GAAATGCTTG | TCCGGAATAT | 360 |
| | TCTCCAGTTT | CGCAACACAA | GGGTTCCTCC | GTGCTCGTCC | GGACTTCCTN | GTTCTCTCAAT | 420 |
| 20 | CCCNCTCAA | CCTGCTCGGN | TTTCGGCGGG | GAAGGTNCCA | NCGGGCTTAA | TGTCAC | |

1059RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGTTAC | GCTGCAGCGC | GAAACCTCCA | ATGCTCTGGG | CCAAGGTTGG | CGGCTGGGAT | 60 |
| 25 | TCTTGGGCTC | ACTGCATGCT | TCCGTTTTC | AGGAACGACT | GGAGAATGAA | TACGGCTCGA | 120 |
| | AACTCATTAT | CACACAACCC | ACTGTTCCAT | ATGTCGTGGA | GTACTCCGAT | GGGACCCAGA | 180 |
| | TAACAGTAAC | AAATCCAGAT | GACTTTCTCT | ACCTGACACT | TCCGCGAACC | AAGATAAAGA | 240 |
| | ATTTCCAGGA | GCCATATGTA | GAAGCTATAA | TGACTCTTCC | ACAGGATTAT | CTCGGAAGGG | 300 |
| | TTATCACTCT | CTGCGACGAC | AACCGTGGCA | TACAGAAAGA | GATAACGTAC | ATTAACACCA | 360 |
| | CGGGCCAAGT | GATGCTGAAA | TATGATATCC | CATTGGCACA | TCTAGTAGAC | GACTTTTTTG | 420 |
| 30 | GTAAGCTCAA | GTCTGTCACG | CATGGTTATG | CTTCCCTAGA | CTACGANGAT | GCAGGCTATA | 480 |
| | AGCCGTCTGA | CATTGTCAAG | ATGGAGTTGC | TTGTAAATGG | AAAAGGTGTG | GATGCACTTG | 540 |
| | CACAAGTGAT | GCATCGCTCC | CAAACCGAAC | GARTGGCCAA | AGAATGGGTT | ANGAAGTTCA | 600 |
| | AGCAATATGT | CAAAATCCAG | TTATACGAAG | TGGTTATCCA | GGCC | | |

1059UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTGGCG | GACGTGTTTT | TGCGCACCGC | GGACGTGCTG | CTGAAGATGT | CGCGGTACGA | 60 |
| | RGAAGCCAAG | GCGGCGGCGG | ARCGCGGCCT | GAGCCTGGAG | CCGGACCACA | TGAAGCTGAA | 120 |
| | GGCGCTGCAC | CTGGAGTCTG | TGCGCAAGTT | GGCCGACTAT | AACGGCGACA | TCTAGTCCGC | 180 |
| 40 | GCGCGCGGCC | CGCGCGGGCA | CCACGGGTAT | ATATACACAG | CCGCTCTCCG | CGCGCCATGC | 240 |
| | CGCCCGCCGG | GACCGCAGAC | ACAGGCCCCG | ATCTTGCGCG | GCGGCGGGCG | ATGAGCTGGT | 300 |
| | GCAACCTCT | TGGCCCGTAC | CCTGCTAAGG | AGGGTAATCT | CCCACCTCAG | TACTATAAAA | 360 |
| | AATTTTAAAG | TTAGCCACTT | TCGAGTTACA | ACTCCCCGCC | TGTCGGGTAA | CGGATCTCAA | 420 |
| | CTTGTGAAGC | CCCTAACGCT | GCTCTACTCC | TTTTGCGCTA | AGGCAATATC | CCGCCATGTC | 480 |
| | TTCGTCCGAT | ATCAATGTCA | CGGTTGATTG | GTTTATTGAT | AGGTTGAAGC | GGAAGCAGAT | 540 |
| 45 | TACTGGCAGG | TACAATGTGT | CGCTGGAGAC | GTTACAAATT | CTGATGCGTT | ACGTATCTGC | 600 |
| | CATCCGGTGG | TCGACGAAGG | ACGARCTCAT | TGAACAGATC | CGTCTACTC | | |

1060RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTGCTCA | TACTGAGCGG | CCAACTGGTC | GTACTCCGTA | TGCAAAACAT | CTGTGGTTTC | 60 |
| | CTGGAAGTGC | GCCACCTTGA | GCGATATCTC | ATTAAACTTG | GTAACCAGCT | CTCCCACTG | 120 |
| 5 | ATGATTGACT | GCACTGGTTT | CCGTCAGCAG | GTCCCTCCAGT | TCGCCAGTTC | TGGTGTCAC | 180 |
| | TTCCGCCACG | TATCCGCTGT | ACAATGTATA | CTCGTCGTTT | GCAGACCCCA | GARCAGAAGC | 240 |
| | TGCCCGCCAC | TCTGGCGCCA | GCAGCTCAAT | TACCTGAGGT | TCAATCTCTG | TTTCAACCGT | 300 |
| | TGCCAACAGA | GTGTCTACTT | TTTGGCGTAA | CGAACTATCC | CCAAAAAGCG | GAGGCAGCTC | 360 |
| | ATCGTGAGAR | GARGCACCGG | GATTTGCCGC | TACATCCTGT | ATGACTGART | TCTTCCGGCT | 420 |
| | CCTAAGCATG | GTGCAGTTGC | TGCCTCAACG | GCTTTCCTTC | TGGTGCAAGT | CTGCAGTGGT | 480 |
| 10 | TCGTGCTTAT | GCGCAAGCAG | AATACCATGT | TGAGCCGGCG | AAATCTCATC | ACGTGATCAT | 540 |
| | CATCTTGCAA | CGGCTCGGAR | GACRCTGATG | CACGTGTTCCA | TAGGCTTAGG | GCGCAATTAT | 600 |
| | ACGCTAGCTA | GTTATATTGA | TAATATGTAC | ATGATGCCTT | C | | |

1060UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGCCG | TCCTTCTTGT | CCAGCTGTAG | GTCCGGATGA | GGGTACGCCT | CGCTCAGGTA | 60 |
| | CTCCAGCCGC | AGCTCGCCGC | TCTCCATGGA | CGCCTCCAGG | ATCGAAGGCG | CCGGCACAGC | 120 |
| | CTCGGAGGGG | AGGGGCGGCT | GCAGGAGGGG | CATCTCCTGT | CGCTCCTGGT | GCATCTGCAG | 180 |
| | CGCCGAGGCT | CTCGGCTCCA | GCGCCGGGTC | GAAGTACTTC | ACATTCGTCA | GGCCCGAGCT | 240 |
| 20 | GTACAGATTG | AGGATGCAGC | CCTTGAGCTC | CGCACGGTGC | AACCGGTACG | CAGTCGGGAC | 300 |
| | ATACTGGTAC | CCGCTCGTCC | CCCCTCCCGT | GAAGTGCGGC | CGCTCCGATC | CGATCGAAGA | 360 |
| | CAGTGACGCT | GTGGGCTGGT | GGCTGTATCG | CCCCTCGCGC | GCCGGCGCTG | CGCCCTGCGC | 420 |
| | CTTGTTCAAC | CACCCGAGCC | GAAACACAGT | CCCGTCGTAC | GTCTCCCCGT | TCAGCCCGCC | 480 |
| | TCCACGTCCG | ACCGGCGARC | CCGCGGCTG | CGARCAAGGC | GACACCTGCT | CCTCGCAGCG | 540 |
| | CGCACCCGCC | TTCATGTCTT | CACATGTGAG | CGTCCGCTTG | TGCGCTTGCC | CCGTGNGCAC | 600 |
| 25 | CTGTTAACTG | CATCCGCGTC | TGTTGGCTGC | TGCTGCTTGC | TGCTTGTCTT | | |

1061RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTGCTTT | TGtAAGTtAT | CATCAGCTAA | ATACCGTAAA | GctGGTTTgA | ACGGAGGTCC | 60 |
| 30 | TGCCCTTGTGC | TCATATATTA | TAGAAGTATC | AATGACGAGG | GGATGCCGCA | TtTCAAGAC | 120 |
| | GTTCAGTTCG | GCCTGCAATG | AATGGCCGAT | AAGCACATCT | GtTGGCGTTA | TCATCCGCAA | 180 |
| | GAGATCCTGT | tGGACGTCTT | GCAAAGtCGT | GGTCAACCCG | ACCAACTTCT | CCTCTGTAAT | 240 |
| | ACCGCTGTAC | TtCGTCAAGT | AGtCCACAAT | GGGCTCATCT | GGCTtGACAA | ACTTGTcATA | 300 |
| | AACTAAGTTA | CAATCAAAAt | CGACGACGCT | CACACGCGTC | AACACGTATC | CGTTTTTaGa | 360 |
| | aaGGcACATC | TCACAGTCGA | TGGcAAAAGT | GTGAGAACCG | tCGTGTtGGA | AACTGACAGT | 420 |
| 35 | GTCCACCCAC | CCACTGcACT | TCTCCTtATT | CTGATACTTt | AGcAACAAAG | CCTTtTtGGGt | 480 |
| | ACTCCTCCgA | TAAGCCAGGT | GTgTTTAGAT | GGaTGGGGTa | CTCATTaTGC | AATAaGTCAA | 540 |
| | CAACGGGCAT | AGcAAaTCAA | GcAAGtGATT | | | | |

1062RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCGGTG | ACGTGGcgct | GGTATGGCTT | CATCCAGTCG | CCGtTCAACA | AGAAGTTTCT | 60 |
| | GTAAACGTGC | AAGTTACAGC | TGGTGAAGGA | ATCAACCTCT | GCGCCACCG | CCTTGATCAC | 120 |
| 5 | CTCTGGTGTG | TTCAAATACT | CCTCACTGTA | CTTCAATGTA | TCGTAGCAGA | GCTGGCCCTC | 180 |
| | ACACTCCTTG | CGAACGTCGT | AGACGTTCTT | ACCAGtTCTC | TGGAACGGCG | TCAACTGGTT | 240 |
| | GCCATTACAG | TACAGAGAGG | CTGGAACACA | CGACCACAG | TTCTGCAGGG | TGTAGCATGT | 300 |
| | GCGGATCAAA | CGCAAGCACC | GtGGCAAGGT | CTCGTTCATT | GCCGAGCATT | GCTCTGGGCC | 360 |
| | AAGAATGGCG | GGTTCGCCGc | CACCACCGCA | GGCCATACGC | TCGTAGTAGG | GGTACTGTgT | 420 |
| | CAATGGGTCT | gTCAaCCCgt | tCCCAaTTaG | cACAGAGcTC | AACTTaaaCG | AGCGCTCctC | 480 |
| 10 | GcCTGGGTGc | GACaAGATCT | CGGCAGcAAT | aGcAGGAaTy | Ty | | |

1062UP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCTGGTT | GtaTCATAGA | GAATGAACAT | ATTGATAAAA | AAATGCTACT | GTGTACAGTA | 60 |
| 15 | ATGTCTGAAC | ACCAACATGC | TCTTTTCTTG | TATTAAATGA | TGGGATAACG | AAGTCTTGGA | 120 |
| | AGAATCCTGG | GCGGAAATAG | TAGACATGTT | TAGAGAGATT | TTTGTAATGG | CTAGAGTCGG | 180 |
| | TTTTGATGGC | CGAAAAAGAA | GTGCCAACAT | TTAAATTCGA | AGGTTTATCA | GGTAGGTCAG | 240 |
| | GGAATATACT | ATCCTCGTAT | AAACCCCTGA | TTGTACTTGC | AAGGAGCTCC | AAGTCGTCCTG | 300 |
| | AGTTAGGCGA | TGGTTCATCT | TTAGTGTGAG | CATCGACGAG | GACCTCACAT | GTGATTCTCTG | 360 |
| | AGTCAATTGC | ATCTATGACC | TCTCCATTCA | CAATCAAGCC | CATGGGTCCA | ACCTcCTTGA | 420 |
| 20 | GAGCCGCCTT | GATAAGCTCA | GTACGCAGCT | CGACCGAAGT | ATCCAACGTA | AGTGACTCCT | 480 |
| | TTATTTTCGA | TTGCAGATAT | TCgGGCCGCa | CTGCATGTAT | AGATCCCCCA | TGAATAAAGG | 540 |
| | AGAATTGCTG | CACAGTAGTA | AACGCAAAATC | CCGCGTAATT | AGTTGGTTGG | CTTCTTAGGA | 600 |
| | AGTCAGTGaa | CCGATTATTT | GCGTCCTGat | CCT | | | |

1063RP

| | | | | | | | |
|----|-------------|-------------|-------------|-------------|------------|-------------|-----|
| | GATCGACTTG | ACCGTCACCC | GGTACTGGTC | GTACTTGTCTG | ATGAACTGGT | CCTGTAGTTC | 60 |
| | CCCCAGTTCTG | TAGATGAGCA | CGCCCAGTTT | GTCGGTCACG | TCGGACACAT | CGTCGTCTGTT | 120 |
| | GTCCATGCC | CACATCCGCA | GCTGCCGCGC | AGCGGCGCGC | CGCTCATTGG | CCACCACCTTC | 180 |
| 30 | CAGCGCACGT | AGCACCCCCCT | TTTCCGTCTT | CACGAACGAA | GACAGCTTCC | GTGCCAACTC | 240 |
| | GGGGCCAAAG | TTTCCCGCTG | CATTCTTTGCG | GAACGAGGAA | GCAATCCCGG | CACGCCCAAA | 300 |
| | GAACTTGGA | CGTGTGGAAG | AGGGTGGGGG | AGGGGGTGAC | TGGAGGTCTG | ACGCAGTAGG | 360 |
| | CGCCTTCTGG | TTTCTCAAAG | AGTATGTTCT | GtGCATATTC | TCGtGCTTAG | ACTGGTCTGG | 420 |
| | CAGTCGGtAT | TTGTAGGTCC | GATaAGATTc | TcAGACGACA | GCAAGTAAAG | TACAACGGTG | 480 |
| | GTCGGtGCCC | CTcCAACGTc | TTTTT | | | | |

1063UP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCTTAATA | GCaATAGTCG | ACTACAGGAA | ACACAAGCTT | TCATAATGTC | GAAATCTTTA | 60 |
| | TCATGGGATA | CACTAGACTA | TACTCTACAA | CCATGGATTTC | GTACTGCTGT | TGATGCCATG | 120 |
| 40 | GGTTATGAGA | CCATGACACC | TGTACAGGCA | TCGACGATCC | CGCTATTTTC | CAGAAACAAA | 180 |
| | GATGTGGTTG | TAGAATCTGT | GACCGGTTCTG | GGGAAGACCG | TGGCATTGT | CATACCTGTA | 240 |
| | TTGGAGAGAG | TGATACAGGA | TGATGCCAAT | AGTTCAAAGC | TCAAAAAAGG | CCACTTCCAC | 300 |
| | ACCATAATAA | TCTCCCTAC | GCGGGAGCTT | GCATCACAGA | TACAGGGCGT | GATTGAAGCG | 360 |
| | TTTCTGACAT | ACTATCCAGA | TGGAGAATAT | CCTATAAAAT | CACAGTTGCT | TATCGGTAGC | 420 |
| | AATACCAGTA | GTGTCAGAGA | TGATGTTGCA | GCGTTTTTGG | AACATAGACC | GCAAAATTTA | 480 |
| 45 | GTTGGTACgC | CTGGAAGGCT | ATTAGACTTT | CTTAAGATGC | CaAACATCAA | GACGTCTTCA | 540 |
| | TGTGGCGCag | CTATTCTTGA | TGAgGCCGac | AaGTATTGGA | TATGAATTTG | AGAAGGATGt | 600 |
| | CCAGACaATA | CTGGAGATGC | TACCAAGCCA | A | | | |

1064RP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| | TAGTGGATCC | AGCATCCCGT | CTCGAACCAGT | CCTGAGTTCC | GCCGGcTCTA | TCCTAGACCG | 60 |
| | CCAAAGCCCA | GcTTGAAGAC | GTACTGGGAG | ATCGTGAAGG | AACCAAACCT | CACTATATGT | 120 |
| 5 | TCCCTGAGcA | CAGCGCTAAT | GTTCGCCACC | TACTATGGGT | TCAGCGTCAC | GTTCGCCCAC | 180 |
| | TACTTGA AAC | TTGACTATGG | cTTcAGTAAC | CTTGcGATCG | GCGCGTGCTA | TGCCGTGCCA | 240 |
| | GGCGTGGCCC | TAATGATGGG | CTCCCTCTTG | GGcGGtCACA | TTTCCGACCG | CTTCCGCAGG | 300 |
| | AAGTGGGTAG | CCAAGAACCC | CGGNAAGACC | TtCCCGAGcT | ACAACCGCCT | CATCTCGCAG | 360 |
| | GTGTTtGGcA | TCTGCGTCAG | cATGGCCGGc | TGTaTCGGGT | ACGGcTGGGG | AATTCAATTT | 420 |
| | CACTATCACA | TCGcTATCGc | GCTATTCTTt | TCTTTCTTAA | TGGcGttGGG | TATGAcCTGG | 480 |
| 10 | tGcTCTaAcT | CCACCATGAC | CTtCCTtAcG | GaGTCCAACC | CAAAAaGAGc | TGcCGGtaCC | 540 |
| | ATTGCGtaag | cAAcAGcTT | | | | | |

1064UP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTGTTCT | CGCCCCCCTA | TGGGCCCTGC | CTGCGGGCAG | AGGGAGATCG | TCCTGGTCCG | 60 |
| | CCTAGGCTAG | GCACGGCCCT | AGGCGGAGCT | TGTCCTGCGG | AGGCGCGGCC | GGCTGAGCCC | 120 |
| | CGCTGCGCAG | GCGCGCAGCC | CGTGAGACGG | TAGCGGcCCG | CCTAATGCCT | CCTACGCAGC | 180 |
| | GACCGCGCAG | CGGACCTGCA | CGTTAGTAAA | AAATCATTTT | TATCACCACCT | CAAGATGCAG | 240 |
| | TCTgATTGAA | GTGTAAAGCT | GCAGTAGAAG | AGACAAGTAA | GCCATCATGA | AGGTATtTTA | 300 |
| 20 | TAGGTGCTAA | GTTCCTCGATA | CAAAGCACAG | GTGGGCATtC | TAGGGCTGCA | GAGACAGGGC | 360 |
| | ATGGGCGTTT | TACGGATAGc | CCgGAGaCTC | CCcATTGGGG | GGGCTTAGCG | GGAGGGTTAG | 420 |
| | CGCGGNGTTT | GGAAACGAAT | AATGGGNTGC | CANGACGCGG | GCCACGGNGG | GACTGATGCT | 480 |
| | TGTTTTTGTt | TGGGAATNAA | TCTTNATACT | AACAATCCCN | GTNGGNNNGA | CAATTCTTAC | 540 |
| | CCCNGTAAAT | NGGTACGCAA | AAGACCATGN | AGGTCGGNTG | ANGACAACCN | NNTCCCNNT | 600 |
| | TTCTTNCGAN | A | | | | | |

1065RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTGTAGT | TTCCGAGTCC | CTGATGCGGT | CCGCCAGAGC | AGGCAGCGCG | GGCCAGGGTC | 60 |
| | TGCGCAAGGC | AGGCGTTGTG | TCACCGCGGA | GCCACTCTCT | GGGCAGGCAG | TTCCACGCCT | 120 |
| 30 | CCTGAACGAG | CGCGGGCATG | ATGGGGCCCC | GAATGCTGCG | ATAGGCATCC | AGAATGTGGA | 180 |
| | ACAGGTCGT | CTTTATGGCC | AGACGCTCT | TATTATGTGG | GGGTTCCATG | TAAAGCGTGT | 240 |
| | CCTTCGAAGC | ATCAAAGTAG | AGGGACAGGT | CGTTGCTCAT | GTGGTACAGA | ACAAAGACTG | 300 |
| | ATGACATTGG | AGTAGGTCTG | GGATTCCGCA | CAGACCTTGA | CACTTGGGGG | GCAAAAATTCT | 360 |
| | TTGTCTTGTC | GAGGGNTTTT | CCCNTCANTC | CCCGGGCAGG | TGGGGGCAGN | CTTCCCCNGG | 420 |
| | GCAAAAAAGG | CTNTTCCCCA | CCNAGATNAA | CCCCTGGGAA | ANCCCCGAAGG | TGNCANNAAT | 480 |
| 35 | TNAGNGGAAG | TNNCCTNACC | NCTCCACCNA | ATCGGAAAAA | TTGGGGANNA | ANGCCCCANC | 540 |
| | CCAACNCCCA | AANTTTTCTT | GGAAAAAAA | AGGGGNGCCC | CACCCNGGNG | GANTNANTTT | 600 |
| | TNTCCCCCCC | NATCC | | | | | |

1065UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTCTTCC | CTTCGATCAT | CCCTCAGTTG | GGTTCTGAGT | CCATCGATGC | GTTCACGCAG | 60 |
| | TTGGCCACAC | AGTTGCAGAA | CGCACAGGCT | GCAGCTCCAG | CAACCGAGGG | CCATGAGGCA | 120 |
| | GGCGAGAAGA | AGGACAACGA | CATCCCAGAG | TTGATTGAGG | GCCAGTCTTT | CGACGCGGAT | 180 |
| | GTGGAATAAG | TGCGCTGTGC | GAGGACTGTG | TTCTCGCCGC | CCATCTCAGA | ATTTGTCTAT | 240 |
| 45 | TTCTGCAGGG | AATATACATA | TATTGAGTGC | ACATATGGAT | ATTATGTATA | TATATGTACA | 300 |
| | TACACTATAC | CCGCCCCGTC | TTAGTCCGAC | CACATAAACC | TACGGGTCCG | CGCCCCATA | 360 |
| | TCGTTTTTACA | ATAAACCGCG | CGNNCTTGCG | CGNNTNCCTC | GANAATCTCN | TTGGGGGGCC | 420 |
| | CNCCNNCCNT | TANNAGGTNC | TTCTNCCGGG | TNGGAAGTNA | AAAAGCNNNN | GTTCNGTTGN | 480 |
| | NAGNGTCCCC | GGGGGAAANC | CNNCCCCGNG | GNGGATTTTC | NCCCCAACCG | NAGAAACNN | 540 |
| | CNTTGCNCCA | AGTTGCCCGT | GGGAGAAAAA | AANCCNATGN | NGAAGNAAAA | TTGCCCCCTG | 600 |
| 50 | CCCN | | | | | | |

1069RP

| | | | | | | | |
|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCGACCCC | GGTCCCGCTC | GCATCAGCGA | GCTGCCCCGTG | CCGATCAGCA | GCCCCGTCCC | 60 |
| | TAGCGACCCG | CCGATGGCTA | TCATCGACAC | ATGACGTGCC | TGCAGGTCCCT | TCTTGAGCCG | 120 |
| 5 | GATGCCCTCG | TGCTTTGCCAT | CGTAGTTCCA | GTCTACGGAC | TGCGCCTCCT | GGTCTGTGCT | 180 |
| | GCTGTGGGTA | TGCCCGCAGC | CGCGGCCCTC | ACCAGCGGCG | GCCAGCTTGG | GGCCTTTCAA | 240 |
| | CTCGTCCAGC | GTGGACGCCCT | CTGATGCCCTG | TGCGAACTTC | TCTTCCGCCA | TAAGTCCGGA | 300 |
| | GCTGTTATCT | ATGCTACTCA | AGCTCCCCGCC | GTATAGCCTT | GCTATATATA | CTTACGCTGC | 360 |
| | GACGCCCTAT | TCCGGACACA | GCTATATATT | GGCCCCGCGT | CTCGCGCGCT | GCTTGGGGAG | 420 |
| | CCGACTGACC | CCACCCCTGAT | AGTGCCGTTG | CACTTCTGCT | GGGCGCGCTC | AGCCCGTTCA | 480 |
| 10 | GCGTCCGACT | GTGACATCGG | GCTGCGCGAG | CGCGATTAAAT | CACCCGACTG | GGCTGCATGC | 540 |
| | CGCACTAAAC | CTCCCCCTCG | GGCGCAGGGC | GCCCTTATCG | CCTCCGTGAT | GACGTACGTA | 600 |
| | TGTTTATCAA | AGATCCGGAG | AMCTGTTCCA | GGCTCCTACG | TTGCGATAAG | AGGC | |

1069UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| 15 | GATCTTTCTG | CCCTTATCAG | GGATGGCACC | ACCGGTCTTC | ACCTCGTTTG | ACTTGTAGCC | 60 |
| | ACAGTGCTCG | CAGACCGTGG | ACATGATGAT | GACCTCTTTG | AAGTGTGGGA | TGTTGACCGG | 120 |
| | CTTCATATGC | GTGTACATG | GGTGAACACA | TGATGGGCAC | GTGGCAGTGA | AGGTCTGCAC | 180 |
| | CTCGTTGTGG | AAGTTCTCGA | TATCCGTAGC | GTCAGATAAG | AGACCGGCCT | GTGCCGCTTG | 240 |
| | CGATTTGTTG | CGCTCGCGCT | GCGACAGCTC | CGCGCGCTTC | TCTTGACGCC | GTTGCTCCAA | 300 |
| 20 | TTGGTCGCGC | GTAATGATGC | CCACCTGGAC | GTTTTGCTCA | TCTGAACGCA | GGTACTCGGT | 360 |
| | TTTGGACCAT | TTTGGCGCAG | CTTCGCCTGG | CTTGTATTCTG | ATCCAGGAAT | TGCCAGCAGG | 420 |
| | GTCGTCCAGC | GTAAAAGTCA | GCGGTAGAGT | GCCCGGCTCG | CACGACAGCG | CAGCGCGGAC | 480 |
| | CTTGGAATG | AACTGCGCAA | TCTGATCGTA | CAGGTTCTCG | TCCACTTCCT | TCCGCGCCGC | 540 |
| | CTGGTCGGCG | TCCAAGTCCT | CGATCATCTC | GGTCAGCAGG | CCCTCCACAG | TCGTGAGCTG | 600 |
| 25 | GCCGCGCTTG | GGAAGAATCT | CCAGGTCCAA | TTCAACGAAG | CGGGAAGCCG | CAGTTTCCGC | 660 |
| | CTTGATGACT | GCCTGTCAAA | ATCGGCCTTC | TCCTCAACCT | TCAGCTGA | | |

1071RP

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|----|------------|-------------|-------------|-------------|-------------|-------------|-----|
| 30 | GATCTGNGGG | GGAAACNCAG | CATTCAACCGT | TGTGCAAAAA | GATTTGACTG | GTAACATCAC | 60 |
| | CAAGCTTCCG | AACAGACAAT | TGTGCGACCC | CGGTGAGTCT | GCAACCCCTGC | AGGAGCTTGT | 120 |
| | GATTGCAGAG | CGTGACACAG | GCAGcAAGAC | TGcTTCCGAA | GGGCTGcTGT | GGcTCACCAG | 180 |
| | AGGCCTGCAA | TTCAACCGCG | AAGCTCTTAG | AGAAACGCTA | GACCAcCCAG | AGCTCGAATT | 240 |
| | GTCTaAGACA | TtCACAGATG | CGTaTtGGAA | GACGTTGACG | AAGCACCAATG | GTA TGcTTGT | 300 |
| | aCGTCCGGTT | TTCAAAGCTG | GCCATGAAAG | CTTGCCCCCTA | CAGGAaGGAC | TTTTTtTGcAG | 360 |
| 35 | AACTAGGGCA | GcGACCAAGA | GAAGGTTGAC | ACGcAACTTT | AAGCAGtGGc | TGGcTGC ACT | 420 |
| | TGAAAAGATC | GtaGaGATTTC | TgcTTCAaAT | CCCTtGGGGG | AAAcGtGcAA | AGGATTTaTG | 480 |
| | AgTaTTaTTa | TAGAAGCC | | | | | |

1071UP

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|----|-------------|------------|-------------|-------------|------------|--------------|-----|
| 40 | GATCGACAGC | CTCGAAGAAG | TAGCCTCCAC | AGCTTCAAAC | ACAGCGCACA | GGTCTGCATA | 60 |
| | CATCACGCTG | GTGCTTGCTG | CAGGCTTAAC | CGGAGA ACTT | TGTGCGCGTG | GCACGGCGCT | 120 |
| | GGCAGaCTGT | GGCAGCACCC | CCCCCGGCGC | GGGCTTATCT | gCAAGCTCGG | GGAGGATGTT | 180 |
| | CTTCACCTCG | GCGTCTGTGT | CATGGgCTGC | CGGTGCCGCT | AGGCACTCGG | gAGACTCTAC | 240 |
| | CTTCGATTTG | TTGACCcTcG | CTGTTGaCGt | CGcTCCATCT | TGAGGcCTCT | TCAGCGCAGc | 300 |
| 45 | GAAGAATCGG | ACCAATGTGG | CCTGCTTCTT | TGGaGtAGAC | ATTGGcCTGA | AGTaAaACCC | 360 |
| | TACTGACCTG | CCaAaTAGcT | cCACTTTGGT | CTCGCGACAG | GAGCTTCCNA | AGANTGACAT | 420 |
| | TNNNTGTNGN | NAAGGCCNNN | NNNTNNCAAA | GACGAANCTN | NTATCAAGGN | CTNNNTNNCC | 480 |
| | CCAGNCNNNA | NAAGNAANAA | NNNNATTNNN | GGNATTNNNN | AAATTANGGT | TNNNNNATNN | 540 |
| | NCTTNGNAAA | TTNNNTNGNN | TTNNNTNATTC | CCNNNGGNTT | TCNNNTNNCC | NCNVCNCC TNN | 600 |
| 50 | GGNTTTTTTTN | NANNTNNAAN | NNNCC | | | | |

55

1073RP

| | | | | | | | |
|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAAATGA | ATACTACTAA | ATCATCATCT | 120 |
| 5 | ATTGAGTTTA | TATTAAATTC | ACCACCTCTT | ATTCAATTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCTTAAAAATA | TTCTTAAATTA | TTAAATTATA | TAATAAAAAGT | TAGTGGATAT | AGTTTAAATTG | 240 |
| | GTAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| | ATCATTAAATA | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAATGCTGA | AAGCATTAGG | 360 |
| | GGTGTGTACC | TTAGCTCTCT | AATTAAAGTT | ATAAAATTAT | CTTAACTAAT | AAAAATAATT | 420 |
| | AATTAATAAA | ATAAATAATT | AATTAAATTT | AAAAATGTTA | AAAAAAGAAA | TAAATAATAT | 480 |
| 10 | GTTATATTTA | AATAGATCAA | AATTTCAACA | ATTTCCATTT | CATTTAGTAC | TACCATCACC | 540 |
| | ATGACCAATT | GTTACATCAT | TTAGTTTATT | AGGTTTACTA | TTAACTTTAG | CTTTTACTAT | 600 |
| | ACATGGTATT | ATTGGTAATA | TTTATCCCTT | ATTATTATCT | T | | |

1073UP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTTAATT | TAAAATTTTA | ATTAACATT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCATA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| | ATTTTTATTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| 20 | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTAAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTATTTTTA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TACCCCTTAA | 480 |
| | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAGAA | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATATAAATT | AATTAAATCN | TTTTTTATTA | TTATTTAAAT | 600 |
| 25 | TATTATTAAT | TAGTAAATTA | TATTTATTTA | TTTTATTAAAC | ATAATTTTTT | GNATAATAAT | 660 |
| | AT | | | | | | |

1074RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| 30 | GATCTAAATA | TATATAATTT | AATTTATAAA | GATTAATATA | AACTTTTTTA | TTATAATATT | 60 |
| | TAAGTATTAA | ATTATTTAAA | CTATTATTAT | CATTATTTAA | TAAATTTAAT | ATTGATTAT | 120 |
| | TAATACTTAT | TATATAATTA | TTATATAATT | TACTTAATTC | ATCATTATTA | ATATTTATAT | 180 |
| | AATTATAAAA | ATAATATTTA | ATATGAATAC | TATTTAGTCT | ATGTTCAAAT | TTTAAATTAG | 240 |
| | TTATTAATAAT | ATTATTAGAT | ATTATTATTT | TCTTTAATAA | ATTATTAAAT | AGATTATCAA | 300 |
| | TAATTAATAT | ATTATTTATT | AATTGTTTAT | TAAAATAATA | TATTTTATTA | TTATAAAGAT | 360 |
| 35 | TTAATTTATT | TAAATATTGT | AAATTATTAT | TTTTATTATA | ATATCTATTT | TTATAAATAT | 420 |
| | TATGTTGATT | TATATTATTT | AACTTTTTAT | AAGAATTATT | ATTAAAAATTA | ATTTTAACTT | 480 |
| | TAATTTCTTA | TTATTAATTT | TTATATTATT | TAATAAATTA | TATTCATTTT | ATTTATTTAT | 540 |
| | TTATTTAATT | AAATTAATTA | TTTAATTAAT | ATTTTATCAT | TATTTAATTA | ATTAATAAAA | 600 |
| | TATTATAAAG | AATGT | | | | | |

1074UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTTGATA | CTAGAGCTTA | TTTTACTTCA | GCTACTATAA | TTATCTTTAT | TCCTACTAGT | 60 |
| | ATTAAAGTAT | TTAGTTGATT | ACTAACTATT | TATGGTGGTT | CATTAAGATT | ACTAACACCA | 120 |
| | ATATTATATC | TATTATCATT | TTTTATTTTA | TTTACTGTAG | GTGGTTTAAAC | TGGTGTAGTA | 180 |
| 45 | TTAGCTAATC | TATCATTAGA | TGTAGCATTC | CATGATACTT | ATTATGTAGT | ACTACATTTT | 240 |
| | CATTATGTAT | TAAGTTTAGG | TGCTGTATTC | TCTATGTTTG | CTGGTTATTA | TTATTGAAGT | 300 |
| | CCTCTGTGTT | TAGGTTTAAA | TTATAATGAA | AAATTATCAC | AAATTCAAAT | CTGATTAAAT | 360 |
| | TTCTTAGGTC | TTAATATTAT | TTCTTCCCT | ATGCATTTCT | TAGGTATTAA | TGGTATACCA | 420 |
| | AGAAGAAATC | CTGATTATCC | TGATCTATTC | CTAGGTTGAA | ATTTAGTATC | TTCAATTTGGT | 480 |
| | TCTATAATAA | CTATTATATC | ATTAATGTTA | TTCTTTTATA | TTATTTATGA | TCAATTAATA | 540 |
| 50 | AATGGTTTAA | CTAATAAAGT | TAATAATAAA | TCTATTAAAT | ATATAAAACT | ACCTGATTTT | 600 |
| | ATTGAATCAA | ATAATATTTT | CTTAATGAAT | ACTACTAAAT | CATCATCTAT | TGAGTTTATA | 660 |
| | TTA | | | | | | |

1075RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTATCTA | ATTACAGTAA | AGCTGCAAAG | GGTCTTTTCG | TCTTTCTACA | AATACTTAGC | 60 |
| | ATCTTCACTA | AGATTTCAAT | TTCACCTAGA | TTAAAGGAGA | GACAGTTGTT | GTATCATTAC | 120 |
| 5 | GTCATTCATG | CAGGACCATA | ATTAGTGGAC | AATGAATTTT | GCTACATTAT | AACCCTCATA | 180 |
| | ATAAGGCTGC | TATTTAATAA | AATTTATTAT | TATTATCTTT | ATTAAAAATAT | TAATTTTTAT | 240 |
| | ATTTTATCAT | GGAGCAGAGT | TCACACTTTA | TACTTTAACT | TACGTTTCTG | CRAAGTGTTG | 300 |
| | TGTTTTTAGT | AAACAGTTGT | ACAACTTTGT | TCTTATTATT | AATTATTATT | TTAATTAATA | 360 |
| | TCTCTTTATT | GAATAACGTC | AGAGCTATTT | TTGCCGAGTT | CCTTTCCTTT | AATTATCTAA | 420 |
| | TTACACCTCA | TATACTCTAC | TAACATACCT | GAGTCGGTCT | ACATTACGGT | ATTTTATACA | 480 |
| 10 | TAAATATTTT | TTGAACCTAA | TAAATTTATA | AAGACATTAT | TTAAGTTAAT | TTATATATTA | 540 |
| | GATTATTTCT | ATCATATTAT | ATTTTATAAT | ATATTACTTA | AGAACCGCTT | TTATTGTTAA | 600 |
| | ACCTTATGCT | TTAGGTGATA | AGGATTATAC | CTTATTTTC | | | |

1075UP

| | | | | | | | |
|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCAGTTA | CTTAGTAGAA | TGATAAAATT | AATAAATATT | ATTTATTAAAT | ATTTGGTTAA | 60 |
| | CAATAAAATT | CAATAATTTA | TTTAAATAAT | GATTAAATAA | TCTCAATATA | AAATTATTAA | 120 |
| | TATAATGAGA | TATATATTTT | TAAAAAGAAT | ATATAATTAA | ATAATCCCAA | CCAAAAATTG | 180 |
| | TGCCAGCAGC | TGCGGTAAGA | CAANGGGGGT | TAGCGTTAAT | CGTAATGGCT | TANAGGGTTC | 240 |
| 20 | GTAGAATGAT | TATTTAAAT | AATAATTAGA | ATTAATAAAA | ATAATTTAAG | AATTATTCAA | 300 |
| | GTAAAGATGA | AATAATAATT | ATATGAATAA | GACTTATAAA | GTGAAAATTT | AAATTATATA | 360 |
| | TTAATTGACA | TTGAGGAACG | AAGGCTAAAG | TAGCAAATCG | GATTTCGATC | CCGAGTAGTT | 420 |
| | TTAGCAGTAA | ACAATGAATA | CCTATTTATT | TTTTATTAAAT | TAAAGAATAA | ATTAAATGAA | 480 |
| | AATTAAAGTA | TTCCGCCCTGA | TGACTACGTT | AGCAATAATA | AAAATCAAAA | CAATAGACGG | 540 |
| | TTACAGACTT | AAGCAGTGGA | ACATGTTATT | TAATTCCGAT | AATCCTCCGA | TAAATCTTAC | 600 |
| 25 | CATTTTTTGA | ATATTTAATT | ATAATAATTT | ATAATTAATT | ACAGGCGTTA | CATAGTTGTC | 660 |
| | TTC | | | | | | |

1076RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| 30 | GATCTTAAAA | TAAGATAGAA | TGGAATAAAA | TATCATTCAG | GTACAATAGA | TGCTGGTGTT | 60 |
| | ACTAAAGGAT | TACCTGGAAT | ATAATTATCA | GGATGTCCTA | AAGTATTAGG | TGAAAAGAAT | 120 |
| | ACAAATAATG | AAAAGAAAAT | TATAAATACA | AATACTGTTA | CTAAATCTTT | AAAAATAAAA | 180 |
| | TAACCATGCA | TTGGTAATCT | ATCTAAATTA | CCTGTAATAC | CTAATGGATT | TGATGAACCA | 240 |
| | TGTACATGTA | ATAGCATTAA | ATGCATAATT | ACTATTGCTG | CAATAATAAA | TGGTACTAAA | 300 |
| | TAATGAAATA | GAAAGAATCT | TATAATAGTA | GGATTACTAA | CACATAATGA | TCCTCATAAT | 360 |
| 35 | CATAGTACAA | TATCATTTCC | AATAAATGGA | ATAGCACTAA | ATAAATTAGT | AATAACAGTA | 420 |
| | GCACCTCAAT | GTGACATTTG | TCCATATACT | AAACAATAAC | CTAAGAAAGC | TGCTGCTATA | 480 |
| | GTTAAAAATA | AGATAATAAC | ACCAACTGTT | CATACAATAA | CTCTAGGTGA | TTTATAAGAA | 540 |
| | CCATAATATA | AACCTTTACC | AATATGAATA | TACATACCAA | TAAAGAAGAA | TGAAGCACCA | 600 |
| | TTAAGATGCA | TATATCTAAT | TAATCAACCT | AGTTGTTTCAT | CTCTCATAAT | | |

1076UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAGAAT | TATTAAGTCA | ACTATTAACT | AATATCTATA | ATAATAATGG | TTTATCATTA | 60 |
| | AAATCATTAA | AGATAATTAT | TAAATAATTA | CCATTTAATA | ATGATATATT | ATTATCAAAA | 120 |
| 45 | AATTATGTTA | ATAAAATAAA | TAAATATAAT | TTACTAATTA | ATAATAATTT | AAATAATAAT | 180 |
| | AAAAAAGATT | TAATTAATTT | ATATACTTTA | GATAATAAAT | TATTAGATTT | AAGTATTCTT | 240 |
| | AATAATATAT | TATTAGGTAA | ATATTTAGTA | GGTAGTAATA | TCCAATTARR | GGGTAGACTA | 300 |
| | TTAAATAGAA | ATATTACTAG | ACTAATAAAA | ATAAATATTA | TGAAAGGTAC | ATTTAATAAT | 360 |
| | TATATATATC | AATGAAGTAA | ATTAAATAAT | TTATATAAAT | TAAATTATAT | ATCACTTAAT | 420 |
| | ATTAATAAAC | TTAATAATCT | ATTTATTAAT | AAAAATGGTA | TATTTAATAT | TAAAAATAAA | 480 |
| 50 | TTAAATACTA | TTTAATAAAT | ATCTATAAAG | TAATTTCTTA | TTTATTTTAT | AACATTTTAA | 540 |
| | AATGTTTTAT | GTAAATAGAA | TAATAATCAA | TTAAATAATA | AAAATTAAGA | TGCCACAAAT | 600 |
| | AATCCATTTT | CCTTTATGAA | TCAATTAAC | TATGGTTTNC | TATTTATTTT | ACTAATTTTA | 660 |
| | TCT | | | | | | |

1077RP

| | | | | | | | |
|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCAGTTA | CTTAGTAGAA | TGATAAAATT | AATAAAATATT | ATTTATTAAT | ATTTGGTTAA | 60 |
| 5 | CAATAAAATT | CAATAATTTA | TTTAAATAAT | GATTAAATAA | TCTCAATATA | AAATTATTAA | 120 |
| | TATAATGAGA | TATATATTTT | TAAAAAGAAT | ATATAATTAA | ATAATCCCAA | CCAAAATTG | 180 |
| | TGCCAGCAGC | TGCGGTAAGA | CAAAGGGGGT | TAGCGTTAAT | CGTAATGGCT | TAAAGGGTTC | 240 |
| | GTAGAATGAT | TATTTAAAAAT | AATAATTAGA | ATTAATAAAA | ATAATTTAAG | AATTATTCAA | 300 |
| | GTAAAGATGA | AATAATAATT | ATATGAATAA | GACTTATAAA | GTGAAAATTT | AAATTATATA | 360 |
| | TTAATTGACA | TTGAGGAACG | AAGGCTAAAG | TAGCAAAATCG | GATTTCGATAC | CCGAGTAGTT | 420 |
| | TTAGCAGTAA | ACAATGAATA | CCTATTTATT | TTTTATTAAAT | TAAAGAATAA | ATTAAATGAA | 480 |
| 10 | AATTAAAGTA | TTCCGCCTGA | TGACTACGTT | AGCAATAATA | AAAATCAAAA | CAATAGACGG | 540 |
| | TTACAGACTT | AAGCAGTGGG | ACATGTTATT | TAATTTCGATA | ATCCTCGATA | AATCTTACCA | 600 |
| | TTTTTTGAAT | ATTTAATTAT | AATAATTTAT | AATTAATTAC | AG | | |

1077UP

| | | | | | | | |
|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCCGTGTA | TTTTTTATTT | ACATTATTTA | ATTAAAAATA | ATGATTTAAA | TAAATATTTT | 60 |
| | TTATAAAAAA | TAATTAGTGC | ATTGTTACAT | GTTTATTAAA | GAATGATTAT | TATCAAAACC | 120 |
| | ATCAACTAAT | TGTTATATAT | TTATTAAATA | TTAATTTTAC | TTAATTAAGA | ATTAGGAAC | 180 |
| | TTATCTATTA | GTCTGGGCTG | TTTCCCTTTT | GATTATTAAC | CTTATCGCTA | ATAATCTGAA | 240 |
| 20 | ATATTTAATT | TTAGATTAAT | AATATATTTCT | GAGATTTAAT | ATTTTTTAATA | AAATAAATAA | 300 |
| | TTATTCCCTA | AATAATATTA | ATAACTATAC | CATATATATC | TAATATTTAA | ATAATCATAC | 360 |
| | TAACATATGT | TTCTGTAGAAA | ACCAGCTATT | TGCAAAATCAG | ATTTGACTTT | CTCTACTTAC | 420 |
| | CATTATTCAT | CAGATAATAT | TGCTACATTA | ACCTGTTCAA | TCGTTTTTAT | ATTTTATTAT | 480 |
| | ATTTTAAATA | TAATAAATAT | ATATTTTAAAT | CATTTGATAA | TAGTAAGATC | ATCTGCTTTC | 540 |
| | GGGTAAATTA | ATATTAACTA | AATTTAATTT | ATTTTAATTA | ATTTTAACAT | TGTTAAATAT | 600 |
| 25 | TTATATTAT | TTTAATATCA | TTTTTTATTT | TAATATTAATG | CTAATATTAA | TTACTTCG | |

1078RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGATG | GCGATGAGAT | ACTACCTTGA | AGCAGCAGCC | TTGACCTCAG | CTAACTCCGC | 60 |
| 30 | AAATTCCTTT | CATTTTTCGA | AAGCAGATTA | TAATTGCTTC | TAAGCCATTG | AATTGCTTTA | 120 |
| | CTTTTCCGTT | AATCAATGCT | CTATTTTACC | ATCATTCGAA | GTAAGAGTAT | GTGATATGT | 180 |
| | CTGACCTAAG | CTACAGATTA | TCTAATCACA | TAGTTATGTA | CGAACCAATA | AGATTATCGA | 240 |
| | ATTTTCGTTGA | AAAACTCAGG | CGAACGGCAC | AGCGTTGCTT | GCGCCTATTA | GATGCTTTGG | 300 |
| | CCATAGCATA | TCACGAAGTG | ACCTCACAGT | TTTAAAGTAA | CCGGAATAGT | CTGTAGATAT | 360 |
| 35 | GGTATTGTGA | AAAGTTTATT | NGCTGGTTTC | ACCCCTGGG | AATCTNGGNG | CTGGNCTGGG | 420 |
| | TTCTTAGGTG | GGGAATCCGG | NCCCCCANT | C | | | |

1078UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCCTTC | CTTCTGGTG | TCTTGCCAAG | CCCTTATTTG | TTGACCAAAG | TATTCCTTAC | 60 |
| 40 | CGTTGCCCTG | TACTCTGTTT | TCATAAATTT | CCGCGGTAGG | ACACCTCTGG | GCTTCTCTTT | 120 |
| | GGCGATCTAT | GAGGGCTTTG | CAATCATCTT | CACCGCCGCT | AAAGTTTTC | CACCATTTT | 180 |
| | GTATGAGCAG | CTACTTCAGT | AAGCCCCCGT | ATTAGGATTG | TTAAAAGAAG | TAGGATCGAT | 240 |
| | ACCTTTCAT | TCCAGATGAT | CGTTGCGGTG | GGCTATTAAT | TTGTTAGCCA | CCTAATACTG | 300 |
| | AAATTTACAT | ATTATTGCAC | TAGTTAATTA | ATATTTATGA | TGCAATGGGA | ATCTATATCG | 360 |
| 45 | GTTCTCCGTT | CCATCTTCTC | GTAATTAGAT | CACGTCGGAT | ATNGTNGCCC | CGTACCGAGG | 420 |
| | AGGGACCCGA | TTGGGNNTAT | CTTTATGGTC | CCGAGAANTN | ATAGAGNGCC | NNAANATAGA | 480 |

PAG1078i1

1 GATCTAGTTC GTTAACTTCC GCAAAACACC TGTCAAGCGC TTCAACAAAC
5 51 GTCTGGATCA GATCCAAGAT GGCCAGTTCT GACTCCTGGT CGTCGACAAT
10 101 GAAAGTAAAA TAGAGTGTTG CATAGTTCTT GTAGATTATT TGGATATCTT
15 151 CGTTAATGGT TTCACTACCA CTCGATAGTA GCGAGGGCGG CGTAATTAAG
20 201 AATGAAGACT GAATTGAACT GTTGCGCTGG CTGATCAGCT CGTAAACCTG
25 251 CTCCAGTAGT AGCTTCTGCT TCGGGAGATC GACAGGAGTA TAGTACTTTA
30 301 CAAGCCTAGG TTGGCACTTC TTGTAACTT CATGTGTTAG TAGGATAATT
35 351 TAAGTACTGC GGCTGCGCGG TGGCAAAGGG GTTCACCCAT ATCAGGACGG
40 401 CGNCGNNTCA TCCNCGTCC CCACCACGGN TACNCGCCNC NCCCA

Pag1078i2.

25 1 GATCTAATAT TCAATTGGCA AACTCTTGAG AGTGTCTTGG AGGAAATTAT
30 51 TCAAGGGGGT ATGGTAATTG AAACGAACGT GAAGAAAATT GTGGAGACCG
35 101 TCGACGAGCT CAATAGAACT TCTAACCAGG AAGCCAGGTT TGGGAATGGA
40 151 CTAGGAAACG CTTTTCAGGC CATCACCATG GGTGGCTTTT CAAATTGGGG
45 201 TGC GCGGCAG TGAATATTAG CACACACTGT CTTGAAACCC CATAATAAAT
50 251 GAAATAAATA CTCCTTGCTA GTGTCTAAGT ACGAAACAAC GCCAAGGCTT
55 301 TTGGATCATC TATGTACGCA TTCAGTTCGG CAGCACTCAC CATGGGCACC
351 AACTCTTCTT ACTTGCTATT TCCTGTGTCT TCATTTGCGC TTCGGCTGCC
401 TGATGGTCTC AAAGCTCCTC CCTAATCCTC TGTAATTCTC CTG

1079/RP

| | | | | | |
|-----|------------|------------|------------|------------|------------|
| 1 | GATCGCTCAT | TATTTTTGGT | CGGAGCCTGG | GCCCTCTTCT | GCTTCTTCTC |
| 51 | AAATACCTTC | AAATTTTCGT | CTATATAGGT | CTGCAGCTCT | TCCTTCTTCG |
| 101 | AACATTCGCG | CTTGTGAAGC | TGGTTGAAAT | ACTGCAGGGC | CTCTGCACTC |
| 151 | ATGCGATTCA | CCATTGAATT | GCGCTCTTGT | ATCTCTTGCT | GGAACTGTTC |
| 201 | TTGTTTGCGA | ATGGCGTTTT | GCCGCAGTTG | AGCTTGCAAA | CTGGTTGTAT |
| 251 | CAGACTCGTC | CACTTCATCT | TCCACGTCCA | GTGGATCCAT | CCCTGCAGCT |
| 301 | AGTCTAGGTG | GAGTGGTCTA | TGTACAGTGC | TGCTGTGCGT | GTTAGCGCGC |
| 351 | TCACCTTCTG | CGACTGTTCA | AAGATGTGCG | TTTCCAGCAA | GAAAAGAGAC |
| 401 | AACCGGAAGT | ATAAGTACAG | CACGCGAGCC | TAATTTTGTC | AGCTTGCGGA |
| 451 | TTTAGCTCAG | TTGGGAGAGC | GCCAGACTGA | AGAGAACTT | CGGTCAATCG |
| 501 | TAATCTGGAA | GTCTGTGTGT | CGATCCACAG | AATTCGCATA | TTTTTTGCTC |
| 551 | ACGTCACCCA | CCGGGTANGA | ACTGGCATTG | CCTACCTAAT | GGCCAGCAGT |
| 601 | GGAAAGCGCT | CTTGTGATAT | ATATATATCA | AGTAACACAT | CTATGTAACC |
| 651 | TTTGTACACA | GTCCCAAGGT | GAATCTTGCC | TCGGATCTGC | CTCATCTGAR |
| 701 | TCC | | | | |

1079/UP

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|-----|------------|------------|------------|-------------|------------|
| 1 | GATCAGCGAG | CTAGGTACCC | GGACGAACAT | GCCGTTGCGC | AGCTTCCCAT |
| 51 | ACTTCAGCGA | CCGTGTGTGT | AGCGCAGAGC | TTCCGTCTCTG | GAATAGCGAC |
| 101 | TGCACCTCTG | CGTTCAGCAG | ATCGCCCTCT | TTCAGAAAGC | TGCGCATCTG |
| 151 | CAGCTCATCG | CTCTCAGACT | TCCGCCGCAG | CACGCCGCCG | GGCAGGTTCA |
| 201 | CAGAAGCCAG | CATGAGCACT | GCGTGCTGCT | TTCCGCCAAT | ATCCACCTTC |
| 251 | CATCGTTTGT | TGCCGACCTC | CACGATCCTG | CCGACAATGT | GGTCGCCCCG |
| 301 | CTCTGGCGTG | TACCGCCCCG | GCCAAGGAAT | CACCGACAGG | AGTCGGTTCA |
| 351 | CCCTGGAAGC | GGTGCCCCGC | ACCGACGAGT | ACGTTTTGTT | CTCCAGGAAG |
| 401 | TATGTGCCGT | GGCCTCGCAT | CCACACAGGA | TCATCTGTAA | TCAGCTCTCC |
| 451 | TGGCGTCATA | ATCACCGACG | AATCCGCTCC | TTCCATCTCC | ACGTCCAAAT |
| 501 | CAAATCTTTC | TTCTTCATCG | TCCAGGTAAT | GGCTCCGATG | GAAGTGAAGC |
| 551 | CCACGCCGCT | TGCGGATCGT | TATTACCTCG | CTCATTACTG | CTGAGACGAC |
| 601 | ACGTTTCARA | ACTTCAGAGG | CTCGCTAGGC | CAGGCGAAAC | AGTGTGARG |
| 651 | ATACGCTTTG | TTACTTCTTG | AAG | | |

1080UP

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|----|-------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCGGCCCA | CGCATGTATT | CCACTATGTA | CGCTATATCG | CGGCCCTCGCC | TCCGTGCGGG | 60 |
| 5 | GCACCGCCTT | ACACCTCAAA | GCCGCAGCCT | TTTCATGCAGC | CCTTGTACTT | TTGCACCAGT | 120 |
| | TCCTGGCACT | TGACCGCATC | CACGCCGTTG | AACAGCAGAC | AGCTGTCTCT | CGCTTCCTTC | 180 |
| | TGGGGCTTGC | ACACACAGCA | TGGCTTTGGC | TTGTCCGTAC | TACTACCTTG | TGAAACACCT | 240 |
| | GGCACAGAAG | AGGATTTCAGG | CATGATTAAT | GCTACAGTTC | TTGGAGATCT | TCCAACACCG | 300 |
| | CCCGCTCCTT | GGGGTTTTTC | TCACTTTATT | TTTGCTTCAA | CGCGCAAAAA | TTGTGTGCGA | 360 |
| | ATTACAATAT | ACAGAGGCGC | AGTAACCCCT | TTAGTGGCTT | TTTGGCTTCT | TGGGCTGGAA | 420 |
| 10 | ANTTNGACCC | CCCAACNTNC | C | | | | |

1081RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| 15 | GATCTTTTCGC | AGTGACTAGT | GCATGCGGCT | ATTTAAAAAG | TATCGAGTTA | CCCTTGGAAG | 60 |
| | TTTCAGCATT | TATAGTACTG | ACGGAGCCGC | TACAAAGCCA | AGGCTTTGAA | GGTACTAGGA | 120 |
| | GACATATTCA | GGCGCATAAA | TCACCGCAAG | CTGGATTGAG | CGATGTTTGT | GGTGTGTTT | 180 |
| | ACAGGAGCCA | GCGCGGTGGC | ATGCGTTTTT | GCGTATGGGA | TGGTGGACCG | ATATCTCTCC | 240 |
| | TTCAAGCTGC | ACAGGCATAC | GCACCCGTTT | GTGTTGGTAA | CACCTTTTCGC | AAATATGACA | 300 |
| | CTGTTGCTCT | CGATCACATA | CCTGCTTCCA | CTCGATGTGT | TTTACTCAAA | CCAGACAAGC | 360 |
| 20 | GGGCGGGAAG | ACGAGCGGCC | AGAGCTGCCG | AACCTCGCGT | TGTTCTGGGC | GGTGATCTAC | 420 |
| | TGGGCGGAGT | TTGTGATATG | CTGGTTGGTG | TTCCCGGTGC | TGATTTTCGT | CGTGGATCTC | 480 |
| | AAGTACTTGT | ATCCGCGCGA | GCCACAGGAG | CCGGGGCGGC | GCAGCGTGCT | TCCGCGACTG | 540 |
| | CGANGCGCCG | TTATATGCAA | TCTCAAGTTC | TATGGTCTTT | GTCTACTGGG | GGTGATCTGC | 600 |
| | NGGCTGGTAT | ATCTCAAGAC | GACGACCGAT | CGCGGGCGTC | AGAC | | |

1081UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCAAGAC | GAGCTGCGCC | AGGGGAGAAA | ACCCCCCAC | ATATGTCCAG | CGATACGCTC | 60 |
| | AGCATGGAAA | ACCCAACCGT | GGACTTGCGC | TCGTAGTTGT | GCTTGGCCTG | TGCGATATAC | 120 |
| 30 | TTCAGCACAG | ACATGATGAT | TTTTATAAAG | TACAGCACAT | GGCAGTAGAA | CAGTGTGAC | 180 |
| | TGATTGTTCA | ACCCTGTTTG | CGTAATGCTA | ACCACATATT | GCACTGTGCC | AATGCAAAAA | 240 |
| | AGCCCGATGA | ACAACATGCAT | CATCTTCCGG | TGCGCTGTGC | TCATCCATAT | CGCCGGCTCT | 300 |
| | CCGGTGAAGC | CCCATAGTCT | GGTGCCCCAT | AGCACCTGCG | ACGCCAGCAG | TCCGTAAAGA | 360 |
| | AGCCAGCTAT | GCATGGCATA | CCAGTAGTCC | GACCACCTTA | CCGACGGCCT | CACCGCGCTG | 420 |
| | GACGTGTGCG | CTTCATTCTG | CCAGAGCACG | TCTGCACAAC | CAGCGAGAGT | ACTAGCGCTG | 480 |
| | TATACCCGAT | GCAATTAAAC | ACCACGTAGC | CTTTCGACAA | TGCTCTTGCG | CTCTGCCGCT | 540 |
| 35 | TCCAGTTGAT | CCATAGTGGC | GGATACATCG | ACACCGACCA | ACATGTCCCG | TACAAGTATC | 600 |
| | CGAGCAACTG | TCTCTTCCTC | ATTCCAGCCT | CGTTCCAAGT | GCTTCTACGC | CGGTCTTCTG | 660 |
| | GCGTCAGAT | | | | | | |

1082RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCACGAG | CAAACATATTA | TTAGGCGCCC | CCCACCCAG | TCTGCAGCAT | TCGAAAGCCT | 60 |
| 5 | TCCTAGCCTT | TGTGCGATGT | CCCAAGGTAC | AATTTTCTCG | CAGCTGAAAA | TACGAAAGAA | 120 |
| | GCGCCAAGAA | GTGGCCTTCT | TTGAATCCAA | CGCCGACGCC | AATGATGTCT | AGGCGGGCGA | 180 |
| | ACATTTTATA | ACAGAGCTCG | ATAAGGGCGA | TAAGCGGCTC | GGCCTGTTTT | CTTCGATCGG | 240 |
| | CTTGATATGC | AATANAATGC | TGCGGACAGG | TATCTTTGTC | GTCCCGCGA | ANATCTTCCA | 300 |
| | GTTGACTGGC | TCAGTATACT | TTGCGCTAGG | GTTATGGGTA | CTAGGAGCTT | TAATTGCTCT | 360 |
| | AGCAGGTCTT | TATGTTTACA | TGGAATTTGG | AACTGCAATA | CCGCGGAACG | GTGGCGAGAA | 420 |
| 10 | GAACCTACCTT | GAGTTCATCT | TCAAGAAACC | GAAATTCCTC | ATTACGTCAA | TGTAATCAGC | 480 |
| | ATATGTATCT | TTTTTAGGCT | GGGCGCGAGG | TAACTCTGTG | ATGGCAGCTG | CAATGTTCTT | 540 |
| | TGATGCTGGA | AAGGTGGAAG | CAACACGTTG | GCGTTGAACG | CCGTCTTGGA | GTTGCGGTCA | 600 |
| | TTTTCTTCTG | CTTCCTTGTC | AACTCTCTCA | GTGTCAAAGC | TGGGTGTGTA | CTTC | |

15 1082UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCGACGC | TTCCGCAAGC | GCCGCTTCTC | CTCCGTGTAC | TCCTCGTCGT | CGTCGTACTC | 60 |
| | CGGCACCATC | GACGCCTCCG | GCTCCTCCTC | ATCCGCGCTC | GCGTCTTCTT | CCTCGTCCAC | 120 |
| | CGTCTCCGGC | AGCAGCGAGT | CGTCCTTCGC | CCCCGTCTCG | TCGTCTGTCG | GCTCCAGCAG | 180 |
| 20 | TGCGCCCGGA | AGCGGCTGCT | CGTCCGGGAG | CGGCCCGAGG | TACGGGTACT | TCACCGGCCC | 240 |
| | CATCTCCCGC | TCAATCCGCG | GGATCACCAC | CTCCCGCAGG | TACCGGTCCA | TGATCTGCGC | 300 |
| | ATAGTGGTAG | ATTTCCGACT | CCTTCGTGTT | GTACATCCGC | GCGTTCCACG | TGATCCGCAC | 360 |
| | CAAGTCGTTT | ACGAACTCCT | GGGCCCCGTT | GTAGTGGTTG | AGCTTCTTTT | TCACCGTCGC | 420 |
| | GAGGCTGAGC | GGCTTCTTGA | TGATCCGGTA | GTAGTCGGGA | TAATCCTTCC | TCAGCGGCAA | 480 |
| | AGTGTAGAAA | ATCGGCAAAA | TCTCAATACC | ATTTTCTCTC | TTTAAGTCAA | ACACGCCATC | 540 |
| | CAACAAAAC | TTGAGCTGGT | CCCGTAGCAA | CATCGTTAGC | CCTCGCCACC | TGAAAAGCTG | 600 |
| 25 | AAGACTTTGG | TAGTGTAATA | TGTGTTCCGA | AACAACATCC | CACGCGTCGT | TTCTGCCCCG | 660 |
| | TCACAGCCTT | GCTTCAAGTT | | | | | |

1083RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCATCAAT | TTCTTTTTGG | CTGTTTTCTT | ATTTACAGCC | TCTATTTCTG | AGCGAACATG | 60 |
| | CGACGCCACA | GCAGTCCTAA | TGAGCTCATC | TGTTAGTTCT | GTTGCAACCG | CGTTACGCAG | 120 |
| | TTCAATTCCT | TCTATTGCTT | TGGAGCCAGA | ATCTCTAGCT | TCATCTTGAG | CGCTAGCTTC | 180 |
| | AGTTTGGGCT | CCCAGTTTTA | AAGCTGTTTG | GTTAAAATGA | AAAGTATTTT | CCTCTTTTAT | 240 |
| | CTGGGAATTG | CCAGCAAAAT | GTTTTCTGTG | CGATGACTCA | AACGGTACAT | CTTTTTTATG | 300 |
| 35 | TTTTGTTTCC | TCTAAATAT | GCGGTGAGGT | TGTAGAGCCG | ACACTAGACA | TAAATGGTGC | 360 |
| | CGTAAACTGT | TTCTGGGACT | GCAGATCAGA | CTGTTGCTGT | GGCTTGAAC | GCATGCTAGA | 420 |
| | TTTCACTTCA | CTTCCAGCGC | GGGATTGGGT | AGTGGGTTCC | GTAGTCTTAT | AATCTCCACT | 480 |
| | ATCGAAGTTG | AAAGTTTTAG | ATATATCTCT | GTGTTCTCCG | TGCAAGGAAG | ACCCCTGCTC | 540 |
| | AATGATGCTT | TCCGAATATG | TGGGTAGATT | TGAATCATTG | CTCCCTAGNA | GCAGCATCAT | 600 |
| | CCTCCGAAAG | AGA | | | | | |

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1083UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCTGAGC | GGTGCGGACG | AGGAGGAGCG | CGAGGAGGAG | CCGGAGGCGG | TTGTGGGGGA | 60 |
| | AACCGTGAGC | CGCAGCGCGA | CGGGCGGGAC | GAAGCGGGCG | TTTGCGGATG | AGGAGGCGGA | 120 |
| 45 | GAAGGCGGAA | GAGGCGGCGA | CGGCCGCTC | GGACGACGAG | GAGGCGCCCA | AGAAGGCGCG | 180 |
| | GAAAGTAGCGT | AGATAGAAGG | ATATAACTGT | ACAGTACCAT | GCAAGACGAA | TCTGAGGCCG | 240 |
| | GCGGACGCGC | GCTGGCGCGG | CGCCGCGGTA | GCTGCGGAGG | GCAGAAAAAA | TCGCCGTGCA | 300 |
| | CAATCTCTGC | GTCATCATCC | CGGCCAGAGG | ACAAGATGGC | TGGCAAGAA | ATTGCGGGTG | 360 |
| | TGCTAGGCGC | GACGGGCTCC | GTGGGCGAGC | GTTTATCTCT | GCTGTTGGCG | GACCACCCTG | 420 |
| | ACTTTGAGCT | GAAAGTGCTT | GGGGCATCGC | CGCGATCCGC | TGGCAAGCGG | TATGCGGACG | 480 |
| 50 | CGGTGAATTG | GAAGCAGACC | GAGCTGATGC | CGGCGTTTGC | CGAAGACATC | GTGGTGAGCG | 540 |
| | AGTGCAAGGC | TGAAGCATTT | TGCGGCTGCG | ACGTTGTGTT | CTCTGGGCTC | GATGCGGACT | 600 |
| | ACGCAGGCCC | CATCCAAGCG | GGAATTTGCC | GACGCCSGAC | TGGCTGTTGT | CTCGAA | |

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1201RP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCTTCGAG | ATGAACCCAA | TATGGAACAC | GGGCTTCGCC | AGCTCGATGT | GCCCCAAGTG | 60 |
| 5 | GCCCCGGCAG | TCGTTCAATG | CCTCGCCACA | CGTCTGACAC | TTGAAGTTCC | GGTCGATGGA | 120 |
| | GCCCAGCCGG | GGGTGCTTCA | GCCCTCCCAC | CTTTGCGCGC | ATCTGCGTCT | CGTCCATCGT | 180 |
| | CTCTGGA AAC | TCAATCTTGG | CCACCGAAAT | CGCCCCGACC | TCTCGGGCG | AGAACAGCCC | 240 |
| | AAACTGCACC | TCCCTGATGG | TCCGCAGAGG | CGCGCTCGAA | TACGGAAAGT | CCACCATCGC | 300 |
| | TGTGTCGTAC | TACCGCTCCC | GGAGATACAC | CCGTPTGCAA | GTTCGTGTGT | GCACCTGACG | 360 |
| | CCCAGCCGCC | ACTCGCAATC | CTCGTTTACG | CCGACCGCTT | TGTTTCGCTC | CCTTGCCGCA | 420 |
| 10 | ACAACGAAGC | TCTGTTATAT | GTGCCCGCTC | GAGACCCATA | GCCTGCTCCT | GTCGAACACA | 480 |
| | CGCTCACGCC | CAGAACTCG | TGTCTTTTACC | TTGCAGCTCT | GGAAATGGTN | CGCGCCAAAC | 540 |
| | CNGCTTATTG | CTTGGGCGAA | CNCCTATGCT | CCGTGTNATC | TCAGCTGGAA | TNCACCANAA | 600 |
| | ACNGACCCCC | CACCTACCCC | NCAACTCTGG | TTATTGGATT | TTGCCGGGAA | TAAACNCANT | 660 |
| | GTTCNCAATC | CTTNCACCCC | CAACTGTGTG | NTCCNCTGTT | CNGTNCNCTN | TTACTCMTNA | 720 |
| | CCCTCCNACN | CCAAATTTTTT | TTNCCCGTTG | CCCT | | | |

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1201UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCCTCCGA | TTAGCCTCGT | CTTAAAACTC | AACCAAGCTG | CTCTGAAACA | AACAACACGT | 60 |
| 20 | ACCACCTCTG | TGTTGTTCCCT | CTGCGCTTGT | TGACCGTCCC | GCAACTACTA | TGTCGTTACG | 120 |
| | TGTGTTTTTT | CGGGAAACTT | GCCACCGTCT | CAGAAATCAG | GGCTGTGAGA | TTCTTCTGTC | 180 |
| | GAATATCGCT | CTGGACCTTC | GCTTACGCTG | GCCCCGCCAG | TGCTCTTAAC | CGGCGCGGTA | 240 |
| | GCCCCCGGCC | CTGGCCGGTA | CCAACAAGCA | TGGCAGGAGA | CACAGAGTAC | TACAAGCAGG | 300 |
| | CGGTGGAGGA | GTACGCGGCG | CTCAAGCAGG | ACACGGACCC | GGAGGAGTGG | GACAGGCGGA | 360 |
| | TCCGCGCAGC | GGGCTGCTAA | GTGAGAAATA | TGGCGCTGCA | GCTGTGCCAC | GCGGAGACCG | 420 |
| 25 | GGGACTTGGC | GCGCTGCGCG | GCGGACATGG | GCGCGTTCAA | GGCGTGCTGG | GCGGCGCAGG | 480 |
| | CAACCGCGAG | CGCGTGACGC | ACCGTGAGCG | GTGAGCTGCG | GGCTGTAAAT | AGGTGTATCT | 540 |
| | GGAGGCGTGT | CACGTTGACA | CTGGACACGT | TACGAANCA T | TNTCNGGNTN | GGCCNCCGGA | 600 |
| | ATGGCCANCC | CCNATCTNAN | NACCCAAACN | GGGGTATGAT | NTN | | |

30 1202RP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCGAAAAC | GCTGCCACCG | AAAGCTTGAC | ACTGAAGGGA | TTTGAGTATT | CTCTTGCAAT | 60 |
| | TTCCAAGGCG | AATACCAGCT | TGTCCCAGGC | TGCCGATCCA | ACCTTCCCTT | CCTTCAGGGC | 120 |
| | CTGCTTGATC | CTGTGCTCTA | TCTGCAGCTG | AGGTAGCAGC | TCTGTGATCA | GCATGACGAC | 180 |
| 35 | GGCCAGCGCA | GAGGTAAAAC | CTTTCAGAAA | GGCCTTTGAG | ATTGCATTTG | CGATGAAACC | 240 |
| | GAGCCTGAAG | ATGCCCATGG | CGAACACCAG | GACCCCTGAT | ATGCATCCGA | TAACCGCAAC | 300 |
| | GGTCATCAAC | GGTTCAAGCG | ACTTGTGCGC | CCATGCATCG | CAGCTCTGGC | CCACCACAAG | 360 |
| | GAGCGCAACC | GTCTGCGGCC | CTACAACCAT | CGTCGGGACG | CTGCCGAAGA | CTGCATATAT | 420 |
| | CAGTGGGGGG | ATCACCAAGT | CGTACAGCCC | TGCGTATGGT | GACACATGTG | CCATAGTGGT | 480 |
| | CAGCGAAATG | GCCAGCGGTA | TCTGGAATGA | CGTCAGCGTC | AGCCCAGCAA | GCATGTCTTT | 540 |
| 40 | CGCATTTCCC | CAGAATACTC | TGGCAGCCAG | CGTATAATGG | GCCGTAGTAA | GACNCATAAA | 600 |
| | ATTTNTTTCC | TNCTTACCGT | TGTCTNNTTA | TNGNCTGTAC | CCCNATACGAC | TTGTCAANAAG | 660 |
| | CAGNTNCCCC | CCGCCCGGAG | ACTTCCANCC | CNTCCCTACT | CCCAATTTGG | ACCANGACCC | 720 |
| | GGTTCCCTGGT | GCTTN | | | | | |

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|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCGCCGCC | GCGCCCCAGG | ACTACGTGCA | CTTTCTCTCG | CTCACACACG | TACTGGACGA | 60 |
| | CCCGCAGCAG | CCCGAAGCGG | ACTGCGTCCA | GCACAGCTAC | ACGCCCCGATC | CGCTGCAGCT | 120 |
| | CGCCGTCTAC | GCGCACGCCC | AATGAGAGCT | CATCGCTCCC | GCGCAGTGCG | ATTTTTTTTGC | 180 |
| | CGGCCGCCCC | CAGCGCTCCG | CCTGGCCGTC | ACCGAAGCCC | CAGCGATGAC | AGCCAGCGTC | 240 |
| 50 | CAGGATATCG | TGGTGCCCCAC | CGCCGGCGAC | AGCGCCGGCG | GGCGCGACGG | GCGCCCCAAC | 300 |
| | CAGGCGGTCA | CCCTCCCGT | CGCGCTCGAC | AGCGCGACCG | GCGAGGTGCT | CGTGCGCAAG | 360 |
| | GCCACCGGCA | AGACCCGCGT | GCGCAAGGGC | CAGACAGAAG | AGCAGTACTG | CGAGCAGCTG | 420 |
| | CAGCAGTACT | TGAGACGTGA | CGCGGTTCCT | GAGTGACCGG | ACGAGGGCTG | GCTCGACCGC | 480 |
| | CGGGCGCCCG | CGGCCGCCCC | GCGCACCAAG | CAGGAGCGCC | AGCGCCTCGC | CCGCCGTCTA | 540 |
| | CCAACGCCCTC | TACTTCTCTG | GCGGCCGTG | CGAANCCGCC | GCTNCTGCCC | GCCACTGCTG | 600 |
| 55 | TATACGTTCC | CNGNTCNGGG | CNCCTTNCNA | TTNGCGCCCG | AANTNCTCNA | NCTCNRNCT | 660 |
| | NNTNCNNN | GACCCNNNNN | CCCTTAATTT | TTCTNTTNNN | NNNTTNTCTT | TTCCCCCTCC | 720 |

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NCTGTTACCC TCNCTNCNTC CNTGGTNNTT CCNTTTGGTG NGCTNTCTTC CNTNCTC

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1203RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAAAACAG | CTGCAGTTGT | TGAAAAGGTT | GCTTGAATCC | AAACCAAGGA | AGGACGTATT | 60 |
| | TTCGTTTCTA | GGCCTGGATA | ACTAATCTCT | TCTCCACTCT | AGCTGGGGAT | AACACCTGCA | 120 |
| 5 | GGACGTGAAC | TAACAAGTTG | ACTACTATAC | AGCAAAATAA | CTCGAACAAG | TTATACAGAA | 180 |
| | TTTTGTAAAT | ATATTATAGC | AGCCCTATTA | CTATAATTCC | ATCATTTGTT | AACGCTTTAG | 240 |
| | CCTTCGTTCT | CAGACTCGTC | GTCAATTTCT | TCATGATAGT | TGATATTTTT | GCGTTGCCTT | 300 |
| | GAGCTTTTCC | TTACTGGGCC | TGCATTGAGG | CTCCTACTCT | TTGGCCTGTA | GTCACTGCA | 360 |
| | GAGCTTGGTG | TATCTTCGTC | CTCGCTTCCC | TCATCGACAA | CTTTGCGCTT | CTTCTTAGTT | 420 |
| | TTAGATGAGG | CTGATGATGG | CCGTTGCGCT | TCTTGAATTC | TCTTCCTCTG | CCCTTGGCGA | 480 |
| 10 | TGTTGAATTG | GCGCGATTAG | AGAAGCGCGA | TACTTTGGCC | CTTATATTTA | CTGTCAAGTG | 540 |
| | TTCAACATGC | TGGTCTGATA | TATAGCTCAT | GAACGCGTTT | CTTTGCGCCT | CTTCCCATAT | 600 |
| | TGGGGAATGG | CTGATAAAGT | TCAGAAGGCA | GATTAGCTCC | CAGGTAGACT | GGTAGATTCC | 660 |
| | ACCCCGCTTG | GTTTTAGCTC | AAANATNATC | AATTGGCAAC | CNGCTAGANA | TAATNTNTGA | 720 |
| | ACATATGCTC | CGTGTNGGAT | CCGNTGCGAT | CTCCCC | | | |

1203UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCATTGGC | TCGCTGCTCG | GGGAGACCAT | CTCGGAATGC | GACACTGTGT | CGATGTCTGT | 60 |
| | GCTGCGGAAG | ATCTTCAACA | AGTTTCTGAC | ACACGATTTT | GGCCCGCTGC | GCTCCCTGCA | 120 |
| 20 | GGCCTCCGCG | CGCGACCCGG | CTTTTGATTT | TTCTCTGACG | ATCTGCCAGT | CGTACAGTAA | 180 |
| | CCGACTCGGG | CGGCAATTCA | CGAAGTTCTA | CTCCGAGATC | CTGTACGGGA | TTACGAACCC | 240 |
| | TGGCTCGGCC | GGCTCAGGCG | AGACCGCGGG | CCTGCAGTCG | ACACTTGACT | CGGAGTTCAA | 300 |
| | GACTCTTCTG | AAACTGCATA | AACCTTACGGC | CAACATATGG | GAGCATGTGC | CGGAAGTCT | 360 |
| | GGGCTCCGTC | TCGGGATTTG | TGCATCAGGA | GTTATGCTCA | GACAATGTGC | CGCTGCGAAT | 420 |
| | TGGGGTACG | CGACTTGTAG | GTGAATTTGT | AGCCGCAACC | TCCGCTGCCA | ACTTCGTCA | 480 |
| 25 | GATGCATACG | GACACATATA | ATGCCCTGGAT | GTCGAAGATA | GCGGACATAG | ACGCCACGGT | 540 |
| | GAGGCGCGAA | TGGGTGAAAG | CCATACCTAA | GATACTGGAT | AACAGTCTGA | TTTGGCAACA | 600 |
| | GATATCTGCA | AAGGCTCAAC | AAGACACTAA | TGGATACCGA | CGATGTGGTT | AGACTATGCA | 660 |
| | GCTTAGAAGC | GCCTGAAAGA | ACTACAGTCC | CCACGATTCT | GGGANATCTC | AAAATTCCAC | 720 |
| | TTNTTCCNAA | TTGTTGCGCC | TACCCAAANA | AAACNAANCT | TAGGAACTTT | TCATTTGTAC | 780 |
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1204RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCGCTTG | GCTAGGTCCT | CAGCCGGCAT | GTCGTACCGG | TATAGGGCCT | CGGAGCCAAC | 60 |
| | TAGGAAGCCG | CGCACCGTGT | CCGACTTGAT | CCATGGCAAG | TAGGTCTTGA | GCGCATCCTT | 120 |
| 35 | CTCCATCGAA | AAGTGAGCGT | CGTCGTCTGG | CCAGACACCG | ACCCATAGCT | TGAAGCCAGC | 180 |
| | ACGGTCCGCA | AGAACTGCAA | CGTGTTCGAG | CGTGTTCGAG | TCAGAGGTAG | AGTAGACTTT | 240 |
| | GACCGTGTCC | GTGTAGGGGC | GCAAGGCCTC | GAAGTCGTGC | AGGTAGTCTT | GAGTGTACTT | 300 |
| | GCAGGTACCG | TCGTGCTTCT | TCACACCTAG | GTTGAAGGCC | AAATCGCCCA | TAGCGTGTAC | 360 |
| | AGACGAGGCA | CCAAGCAGAG | CTGCGGAAAC | AGTGGCAGAG | AAACGCATAG | CTAACGAATT | 420 |
| | GATGGTGAGT | TAGTCTGGCT | AAAGTGGCTT | GTAATGGAGA | AACGACAGAG | AGGGACAAAT | 480 |
| 40 | ATATGTTAAT | ACCAGGTCAG | CGCCATCTGC | CGGAGGAAAA | AGAAATGTGC | CGCGTGTTC | 540 |
| | CGGCACCTTC | CTTAATTATG | AAGCATTATC | TATCACGTGA | ATATCACGTG | AAACACGTTA | 600 |
| | AGCCTACAGA | GAGCTATTGA | CGGTGGCTCG | GAACACGTTA | GCACTGAGTT | ATGTACTAAG | 660 |
| | GTGGCCACGC | ACCATGCAGC | TGTCTTCGAT | GCAATATAAC | CCCCCGGGCC | CCGGCAGTCA | 720 |
| | ACCGCCATCA | AAAGTNCTGN | CCCCGAGNNC | CCTCAAATGT | CCNTG | | |

1204UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGAAG | CAATAGGTAC | TCAATTGCGG | AAGATTCAGA | GACAGCAAAG | GTCAAGTGCA | 60 |
| | GTTACAGCAAC | ATCGAATCCA | CACAAGTTAT | TCTGTACAGA | GGCCATAACT | ACAACGCAAT | 120 |
| 50 | GGCACCCGGG | GGGCAGACGT | TCTCCAACAG | TCCATATACG | AGCAATATGG | GGTCCACGGG | 180 |
| | GGCTCGCGGG | CGCAGCTCAG | AGCTGTTCCA | GAAGTTCGAG | CGATTTGCGA | AGCGCATAGA | 240 |
| | GGACGTGACG | GACCACCCGC | TGGTGACGCG | GTTGCTGCGC | TACACACCGC | TGATTGCGCG | 300 |
| | GTTTTTTATT | GTGGCCACGT | TCTACGAAGA | CTCGATCCGG | ATTCTGTGCG | AATGGCCGGA | 360 |
| | GCAGGTGTGC | TTTCTATCCT | ACTACCGGCG | CTACCCCGGA | GTTTTCTGTG | TGCTGTTTTT | 420 |
| | GATGGTGGTC | GCGGTGCTGA | TGATGGTGGG | GGCCACGATG | ATCCTGCTGC | GCAAGCAGCA | 480 |
| 55 | GCTGTATGCG | ACTGCGATCC | TATGCGCGTG | TATCATCTCC | CAGGATTTGT | GTACGGGCTG | 540 |

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|------------|------------|------------|-------------|------------|------------|-----|
| TTCTCCGGCA | CTCCTTCGTG | TTTGCGGAAT | TTCAGCGTAA | TCGGCGGTTG | CTGATTACTT | 600 |
| CCGTGACTCC | ATCCGTGCAG | AAGCGCATCA | CATTCCGGCAT | GCTGCCGGAG | CTAACAGCAG | 660 |
| GAAGGCGCAC | CAAGGCTACA | TCCTGCTTGC | GGCCGCATAT | CATAGTCTTA | GTTTGTGACT | 720 |
| TTACCTCCGC | AAACTGGTGA | CGNTTCCTCN | CCTCGCGNAC | GGTNCCTCCC | TCGGTN | |

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1205RP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCGCACTT | CAACCCATT | AAGAAGACGC | ACGGCAGTCC | GGAGGACGAG | AACCGTCACG | 60 |
| 5 | TGGCGGACAT | GGGCAACGTG | CTCGCGGACG | CAAACGGCGT | GGCCGTAGGA | TGGCGGAAGG | 120 |
| | ACCCCTCTAAT | CAAGATTTTT | GGTCTACGT | CGATTCTGGG | CCGTACGGTC | GTTGTCCACG | 180 |
| | CCGGCAAGGA | CGACTTAGGC | CGCGGCGGCA | ACGAGGAGTC | GCTAAAGACG | GGCAATGCCG | 240 |
| | GCCCCAGACC | TGCTTGCGGC | GTGATTGGCA | TTGCCAACTG | AGCTGGCTGC | TGCCCGCTGC | 300 |
| | CGGAAGCTCT | GGAAAGGTTG | CAACTAGAAG | CTCTGATGAC | TATGTTAGCA | GAATAAACGT | 360 |
| | TTTATGGTTC | GCTGTGTG | CGCTGTATGT | TACAATTGCA | GCAATTAGAA | GTCTGCTCTC | 420 |
| | GCGCCCCGACG | GCACGCTCGG | CAGCGAGTAG | CTTGGTAGGA | TGTTTGCGGC | CGCCAGCAAC | 480 |
| 10 | AAGCCGAGGA | AGGGCTGCGA | AGGGTTCTAG | CACCTTGGAC | ATGTTACTCT | GGTTGGTACT | 540 |
| | GCGTGGCGAC | GTTAGTAGGG | TTGGTTCGACG | AGCTCGAGAA | TCTCGCACCG | GTGCCGTCTC | 600 |
| | GTCTCTGCCC | CCNAATTTCAG | CCAGCNCCTG | ATTTCTGCNC | ACTTTGGTTG | ATCCCNTACN | 660 |
| | ATGAAATNTT | CCNCCCAAAG | AGCCTGCCGT | TATTTCTNAN | ATGACATCGG | TTCCCCCGAA | 720 |
| | AAGTGTCTAA | ACATCCCTGT | CCCCCN | | | | |

1205UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTCAGG | TTCCGGGACA | TGATTATCAG | CGAGATGGGG | TGGCTGGGCC | GGCGCCCCGG | 60 |
| 20 | CTCCTGCACA | CGCTGCGTGA | ACTGCTCCCG | CTCCGGCAGG | TCCTCGGGCA | GCACCCGAGA | 120 |
| | GATCATCTTG | TCCAGCAGGA | TGTCAATGAA | GTGCTCCTGC | TCCTGTACCT | GAGACACCGC | 180 |
| | GCGCAACTTG | GC CGCGCGCT | GCTCCTCCGT | ATCCTCCTCG | TCCGACATAC | CGGCGCCATT | 240 |
| | GTCGCTGGTC | TCCTCCTGCC | AGAAGCTGTC | CGCGCTGCTC | TCCAGCTCGT | GCCGCAACGC | 300 |
| | GAACTCGTCG | AAGTCGTCGT | CGATTGTTTT | GCGCTGCTGG | TCTTTGCCCG | TCCGCGCCG | 360 |
| | CTCCCATCTG | CGCTCGAACA | GTGAGCACGC | GATGTTGGTG | ACCAGCTCC | GGTTCGTGAC | 420 |
| | GCACGGCCGC | GCCTTTTCAT | CGTCTGCCAC | CCTCTCCTCT | GCCTCCATGA | TGCGTTCATA | 480 |
| 25 | CTTGCGCGCC | AGGAATTCCT | CCAGCAGCGA | ACGCCGCTTC | TTGCTGCCAA | TTGCAACGCT | 540 |
| | CTCAAGCGCC | TTGGTCTATC | GTCTCTCTTC | ATCGGTCTCT | CGCCCCCAG | TCATATAGAT | 600 |
| | TGCGGCTCGC | GGTAGCACAC | TGGCGAAGGC | TGCCCTGGTT | ATATGCCGCT | AGAAGCAGTC | 660 |
| | TGGCGGGTCA | GTTAGTCTTT | TCGTGATGAT | GACGTGTTCA | CGATGACTCG | GATATAGAAC | 720 |
| | AGTCATCTAT | CGATTGAGAA | CATAGCTATA | TAGAAATGAT | TTACTGTAAT | ATATCGA | |

1206RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGCGTCC | GTCGTGCTCG | GCTCCTCGTC | CTCGTTGAAC | TCCGTCCACA | GCTTGAACGG | 60 |
| 35 | CCGCGCCGAC | AGGTCCACCT | TGCGCCACCGT | CTCCGTCACC | ACCTCGGTTT | CGAACTTCAC | 120 |
| | GGACTGCCGC | TTTATCCGCT | CCATGAGGTC | GCTGCCCGTT | AGCCCGTCCG | GGAACCCCGG | 180 |
| | GAAGTTCTCA | ATCTCCGTCG | TTGTCTGTCG | TTGCCCGCCT | GCAGCCACTC | CGTTCCGGAA | 240 |
| | CATGCCCTCG | TACAGCGTCG | GCTTGATCTC | CGCGCGCGCT | AGGTAAATGG | CCGCACTGTG | 300 |
| | TGCGGCAGGG | CCGGAGCCAA | TGATCGTAAC | TTTGTGATGC | ACCATTCGTG | TCTGCAAGC | 360 |
| | TTGTCCCAAC | CGGTATCTTG | TTGCTGCTGC | TAGCATCAAC | TGTGCACCGC | TAAGTTTCGC | 420 |
| | TGCGGCTTGC | TGGTTTTATA | CCTCTGGGCT | TCACCATCGG | TGAACCTTGA | TCGCCGTTAC | 480 |
| 40 | TATTTCCGAC | GCTTATGTCC | GCACCTGACA | AATTCGGCTT | CGCGGGTGCG | CGACTGCGGT | 540 |
| | CAGTGGGGGG | TGCAGTACAA | GATACGCACC | GCGGGCCTNT | NGNNNTCNC | GGCCCTCTCN | 600 |
| | GNCGCCCGCC | GNCCCTTCNC | AGGATCNTTN | CCTCANCTAN | AACNNGGCC | GGNGNNNTCT | 660 |
| | TTTTTTTGTN | CNGCNAACGA | AGGCAATNNA | ATNTTTNNTN | GGNCNTNNGT | TNGAANTGTC | 720 |
| | CNNCNGTGCG | CATCGCNGCT | TATNAACACN | C | | | |

1206UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCGCTGC | TCGTGCACCA | CCTGCTGCAG | GTAGGTTGCT | ACTCCACGCG | CGAGATATGG | 60 |
| 50 | GTCCTGGTCA | ACATCCTACA | GCTGACCTGC | TTTAACGAGA | CAACCAAGGA | CAAGTACGAC | 120 |
| | CGCCGCATCA | TCAGTTCCGG | CGGAACGGTT | TGCACGGCCC | TGTCTGCAGA | TAAGACCTTC | 180 |
| | GCTCAGGAGT | TTAACTCCAA | ATGTCTCAAC | TTTACGACCT | GGTGGCACCT | CATGGCCCGC | 240 |
| | CTAGACCACG | CTGTTTTTCAT | GTGGTGTCTA | GACATTATCG | TGGCCGAGAA | CTCACAACCC | 300 |
| | TTCAAAAGCA | ACCCCATCAT | CCGCGATAAG | CTCAACGGCA | AGGACTGGGA | CTACTACCGT | 360 |
| | GATCTACACG | TTGTTGTCA | CTATAGGATT | ATCTGCGCCC | TGACTCTTAC | AGTGCTTCTC | 420 |
| | AGCTATCATT | TTGGCTCTAA | TAATCTCTAC | GACCTCTCTT | TTGTCGACCC | AGCCTTCCAG | 480 |
| | ATAATAGGGC | CCGAACAAGC | GACTTGGGGG | ACGTGCATGC | AACCTTTATC | AAGAAATGGC | 540 |
| 55 | ATCACAACCTA | TAAAAAGTTC | TAGTTGCTCG | ACTTGTAATC | TCATCTCTAA | ACATAATATT | 600 |

CTTTTATATG CTTGTATTAC TTANCTCAA CATGATNACN TATGCCTGGA AGATTTCCNC
 GNIGGCCGTN AGAACNGATT TGTGTCAACT TNTATAAAC TGACCCGTGC GCCCCTCCCG
 TAACCCGANA TTTCCTGATN CNTGATCCTA TGANGATGCC GGCNCATTNN CANTATTC

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1207RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTGTTTC | AAAAATTGGA | AACGCTTACC | ACCTCACCAA | CACACCAGGA | CTTTATTTTCG | 60 |
| | TAGAAACAGG | CGATCGGCCT | GAACAACAGT | CACTAGAAAC | GGTGCACCAA | GGCAGCTTGG | 120 |
| 5 | CAACGAGGAG | GCACCCTAGG | GCTCAATGCG | TTGATAGTAA | AGCATGTACA | CGAGCTTTGT | 180 |
| | CTCCGAGAGA | AGGAACGACG | TCTTGCACTC | CGACACGTAC | GAGTCTGAGA | TACACCACCA | 240 |
| | CGGGTGCCTA | GTGGTGCAC | GTAAAGCCTT | CAGTTTGCGG | GGACGGCCCT | GGGGACGGGG | 300 |
| | GAGTACCTTC | GTGGCAGCCG | AAGATACGCC | CGATGAGCTC | GCAGAGCTGG | CTCCGGAGCT | 360 |
| | GTCTGTCTCG | GCTGACGCGT | CGGGCTTGGA | GACGGGTTCT | TCCGTTAGTA | GTGACTGTTG | 420 |
| | ATGGAAGCTC | CCCAGTAAAG | GTCTTGAGCA | AGCGGCCATC | GGCCCAGGCG | GAAGGCTTCC | 480 |
| 10 | AGCTGGCGTA | GGGCACAGGC | ATTTCGAGGG | CTGGCTGCGG | GACGGCGTCC | GACGAGATCA | 540 |
| | CATCTGAGCG | AATGATATCT | CGCCCGTCTT | TGGTCTTTCC | TAAGTCAGTT | TGTTGGCGAA | 600 |
| | CATGCGTTAT | GCCCTGAGAA | TGGTTGCCAT | GTGCTTGATT | CATGCGCCAA | CAGCTTATAG | 660 |
| | CGAATGCCAA | ACCCCCACCA | TTGTTNTCCC | CNACACTGCT | CNTGAGACAC | CCCCCCCCGA | 720 |
| | AANTNAATGC | GGTTTNTTTG | TTAAAACCCN | TNAAAA | | | |

1207UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTAATGA | CCGATAAGTC | ACCGGTTATA | GAAAGTTCCG | CGAATCCTAC | AACTGACTCC | 60 |
| | AACTCGCCAC | AGGAGATATC | TCTATTAGAA | AAGAATATCA | AGGATGTCAI | GGGTTCACTA | 120 |
| 20 | AAGGGCGTTG | ACACGCACTC | ATGTGAACAG | ATCATTAACG | AAATTCCTGT | GGTTGATTAC | 180 |
| | GATGTTCCGAT | GGGAAGATAT | AGCTGGTCTT | ACAATAGCAA | AGAAGTGTTC | GAAGGAAACA | 240 |
| | GTGTTTACC | CATTTTTGCG | GCCAGACCTT | TTTCGGGGTC | TCCGGGAACC | TATCTCCGGG | 300 |
| | ATGTTGTTAT | TTGGACCTCC | AGGAACAGGT | AAAACGATGA | TTGCCAGGGC | CGTTGCCGACT | 360 |
| | GAATCGAATT | CAACTTCTCT | TTGCATCAGT | GCTTCCTCTT | TGTTATCGAA | ATACTTGGGT | 420 |
| | GAGTCGGAAA | AACTTGTCAT | GGCCTTATTT | TACCTAGCCA | AACGGCTTTC | CCCCTCAATT | 480 |
| 25 | ATATTCAATT | ACGAAATCGA | CTCTCTACTA | ACTACCGTTC | AGATAATGAG | AACGAATCAT | 540 |
| | CCAGAAGATT | AGACGAGCTC | TTGGTCCAAT | GTCCCTCCCTA | ACGAGCGCCA | CGGCTAGGAA | 600 |
| | CAGAGAGGCG | AAGAGGCCAG | ACGCGTACTG | TCTTGGCCGC | AACCACTTAC | CGTGGGCAAN | 660 |
| | AANGANGCTG | CNATAAACTT | TTTCACGGGT | CTATNATCCC | TTGCCGGAAT | ACAACNAAAT | 720 |
| | GTCTTTTGAA | AACTTNTGGC | CTCCAAAAAG | AATTTTGAAC | TNATTCNNCN | T | |

1208RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATTGAGTTTA | TATTAAATTC | ACCACCTCTT | ATTCATTTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| 35 | TCCTTAAATA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAATTG | 240 |
| | GTAAACATA | TGTTTATGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| | ATCAATTATA | TAATAACTCT | TTAATTAGAG | TTGGTACCAC | AAGAATGCTG | AAAGCAATTG | 360 |
| | GGGTGTGTAC | CTTAGCTCTC | CTAATTAAAG | TTTATAAAAT | TATCCTTAAC | TAATAAAAAAT | 420 |
| | AATTAATTAA | ATAAATAAAT | AATTAATTAA | ATTTAAATATG | TTTTAAAAAA | AGAAATAAAT | 480 |
| | AATATGTTTA | TATTTAAATA | GATTCAAATT | TCCAACAATT | CCCATTCATT | TAGTACTACC | 540 |
| 40 | ATCACCATGA | ACAATTGTTA | CATCATTAGT | TTATAGTTTA | CTATACTTAG | CTTACTAACA | 600 |
| | TGGTATATGG | TATAATANCC | CTAATAAACC | TTATANANIT | TTTACCNAAC | TTNGATTAAA | 660 |
| | AAAAGGGCGA | NCNNCTTTGG | NGGACCCCTA | CCCNATAAAG | GNGTAATGGT | TCCCCAATTG | 720 |
| | GTGGCCGAAA | TAANTTGGCC | | | | | |

1208UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTTAATT | TAAAATTTTA | ATTAACCTATT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCATA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| 50 | ATTTTTATTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTAAATATT | 300 |
| | AAATATACCA | TTTTTATTTA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCCCCTGATA | TATATAATTA | TTAAATGTTT | 420 |
| | CTTTCATAAT | ATTTATTTTT | ATTAGTCTAG | TAATATTTCT | ATTTAATAGT | CTACCCCTTT | 480 |
| | AATGGATAT | TACTACCTAC | TAAATATTTA | CCCTAATAAT | ATATTATTAA | GAATACTTAA | 540 |
| 55 | TCCTAATAAT | TTATTATCCT | AAGTTATATA | AATTAATTAA | TCCTTTTTAT | TATTATTTAA | 600 |

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|------------|------------|------------|------------|------------|------------|-----|
| ATTATTATTA | ATTAGTAATT | ATATTTATTA | TTTTATTAAC | ATAATTTTTC | ATAATATATA | 660 |
| TCCATATAAT | GGTATTTTAT | ATATACCNTN | ATGAATTAAT | GANAAACCTA | TATATGANAT | 720 |
| TAGTTATAGT | GACTTAATCC | CNATCTCAAT | ATATATAATT | ATTATAGAA | ANATACTTTT | 780 |
| TC | | | | | | |

1209RP

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|-------------|------------|------------|-------------|------------|------------|-----|
| GATCAGCCTA | TGTAGCAACT | GATCGGCGCT | GGTCCGTGTC | AAACGCCGAA | AACACCCAC | 60 |
| CAGATTACGC | AGACACTCCC | ATATTTTGAC | CGACTGGAAC | TTTGTGTACA | CAAAGCTATT | 120 |
| CAGCTTGTCA | CTGGCCACCG | TCAGCGGCAT | GTTGTTTCAGC | CGAGTCGCTA | GCGCCGCACT | 180 |
| GCTGTTGCCC | TGCGCCAGCG | ATGGCTCCTT | AAGATCCTGC | GTTCCGATAT | ATTGCGCAAA | 240 |
| CTTCGATAGG | TCTCGACTGA | GCGAATTACC | GACATGGTCC | AGTAATAACA | ACACCCAGG | 300 |
| GCAGCCCCC | CAGCTGTAAT | TCACCGTTT | GACCAGCAGA | AAGTGCAATT | GTAAAAGAA | 360 |
| GTACCCAGTAA | TGCCAGTAAA | ATGTGGAAAA | GACCTGGTCG | TTCTGAAGAT | ACGAAATCAT | 420 |
| CACCTGAAGA | TTCTTCAGTC | TTCTCCGTCC | CGAACATCTT | GGAAAAATCT | GCNGTTCGTC | 480 |
| GCTTCTCTTC | CACTCGAACC | GCAGGGCTTC | CAAGGACACT | CCTTGCAATT | GAA | |

1210RP

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|-------------|------------|------------|------------|------------|------------|-----|
| GATCTAAATT | TATCAGCCCA | TGGACGGATG | GATTACGGC | AGCGTGTGCG | CGCAGCACGG | 60 |
| GGCACGCCAG | ACTGCGAGGT | GGCAAATAAT | TCACATAGCA | ACCTGCATTA | TAAACATCCC | 120 |
| AAGTCATTAA | ACTTACTAAA | TATTGTTGCG | TAACCAAAAG | CACCGTGTAT | CATCATCTTC | 180 |
| ATAGTCTTAG | CTGAACCTAC | TGTCGCACCA | GCCCTTACT | ACGTATTGTA | TCTCCCTTTT | 240 |
| ACAAATGCTTG | CCCACTGCCA | GTTTTCCGCA | CGGGCGTTAG | CATGAAGTCT | TTGCCGCTT | 300 |
| TGTACCACGG | CTTGACGTCT | GACTCTACGC | GGACCAACGA | GGTTAGACGG | AGTGCACCCG | 360 |
| GGACCGAGTC | ATCCTCGCTC | GCGTGTTCCT | AGAGACAATT | TGAGGTTCCA | CGGAGCATCC | 420 |
| ACGCCCATGC | AATCTGCCC | GTAAAAGTTT | GCACANTTCA | TCCCACACTT | GGGGGGTTNT | 480 |
| TATCANCNA | NCCTGATCTG | GTACGNAAAA | NTTTCCNTN | TTTGGTGAGG | AAATCAGGTT | 540 |
| CCCAATA | | | | | | |

1210UP

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|-------------|-------------|------------|------------|-------------|------------|-----|
| GATCGAGAAG | ATGCGGCGCC | GCAACGAGGC | CGCCACGCCC | GAGGCGGGCG | GCNACGAGCT | 60 |
| CCTGACGCCG | GCGGAGCGCT | ACGCGCTGGA | GCAGGGGCAG | GGCTTCTCTGG | CGCCTGTCTG | 120 |
| CCCTGTGCGN | GAGCCGGCNC | GGCCCTTGCC | CGTGCCCTGC | AACGAGCTTC | CCGATGAATA | 180 |
| CTGCATCACC | AAGACTGACT | TCGACCGGCT | CGCTAGCCAC | GGCATCCCGG | TCGAGGACGT | 240 |
| CCACGAGGAC | AGCAAGGACT | GGTACTTCCA | GTGCCCCGTG | GGAGTAGAGG | AGGTTAGCCC | 300 |
| GGGCCCTAGAG | AGCCCCGCGC | TGCAGCAGGC | CCTGGTCTGC | TGCGACCAAT | GCCTCCGCGT | 360 |
| GGCAGCAGCT | GGGACTGCCA | GCACCCGCA | GCGATTGAGC | TTGCTGGCCN | GCGGGCAAGA | 420 |
| CTCTCTACTA | TTTTCGCCCTC | CNTGCCCTCT | TGGCCTGCCC | CACGCGCCCG | CGCCCTCAGC | 480 |
| GGCGGNGNCG | GGCGCNAAAC | CCCTACCGA | ACCAAANNAA | CNACGCCNCC | GCCGCCNCTC | 540 |
| GGTGAAGCGA | ACCCTTTTTN | NCTCCTGTCT | TCCCNCCCTG | AAAGACCTAN | TTCTCTTCA | 600 |

1211RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCCTCC | AGTAATGGCG | TCAGAGCACA | CTGGTAGCGG | ACCCCTGCCA | GGTAGCTCAT | 60 |
| | CGGCAAAAAG | ATAGCACGCG | TATGTACCCA | CCAGCGAGCC | GGGTGATAAG | GAAACTGGTA | 120 |
| 5 | CGGCAGCAGC | CATAGCTCTG | GTGGCGCTGG | GTTACGCCCC | TCCCCTTGT | ATAAATTGAG | 180 |
| | CACGGAAAGC | CACACTTTAC | CCCAGTACGG | CGAGCCAATA | GCACCCCCCA | TGCGCAGCAG | 240 |
| | GGTCTTCCGC | GCCCCGTGCA | TCACGATGTG | TTCGCGCTCC | ATCCCTAAGA | GCCGCAGCAG | 300 |
| | AACGTAGTTC | AGCGCGGTGC | CCATCGACAG | TCGACTTGTC | CTCCGAATGC | AATCCCCACC | 360 |
| | CGCCGTGAC | AGGTGTGCCG | TGTTACCCAC | GTTAGCGCAC | TAGCTCCCCG | CGCTGAGGCT | 420 |
| | CAGGAATACC | ACCCCGCCCA | CATGCATCGC | CACCACATAC | CCATATCATN | ACATCNGGCC | 480 |
| 10 | CCCTGTTACA | ACAGGAAANT | GCCCNAACTT | CCTCTGCAG | ANGGCCCAAA | CCGCCCCCG | |

1211UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTACATC | ATGGGAGGCT | AGGAAGAGCA | AGGCACCGCG | TGCATTTGTA | GACTACACGC | 60 |
| 15 | TATAATATGC | AAATGGCCAA | TACCTTTGCC | CCGATCCAA | AGAAGGGCAC | TGTCAAGCAT | 120 |
| | ATGGTTATCG | AGACGAGCTT | CAACCACTTG | GCTCTAGGCA | TGGTCAGCCA | GATATTTCCG | 180 |
| | CACTAAACAA | CGTCTAGAAA | ATGACTTGAC | CTATGACGTG | CCGGGCTTGA | CTCATCTTAC | 240 |
| | TATCTCAGG | CCCCGCCCTC | TTCTTGCGGA | GCATGGCTCT | AAACCCGTAA | TAAGCCCTAC | 300 |
| | CAACCTGAT | ACAGGAAACA | TGCTTACGCG | CTGTTACACT | TATAAGAAAG | ATGTTATGCG | 360 |
| | CACGCAATTT | AATTGGCTTG | CGCCAGTTTA | AGAAGTTGGG | CCAACACTAA | GTCACCCGAA | 420 |
| 20 | CTATCCGCGA | AGGCTACCTA | TCATTTACCC | TGGAACCTGA | TTGTTTGGCT | ACTCANTCCC | 480 |
| | CACGNTGAAA | ATTGCCCCNA | ATTGCCGCTC | CAGAANCCTT | ATCCAACGGA | ACTACTCGAC | 540 |
| | CAAATCTAAT | TTCCCTTATA | ATGTGAATTA | CACTGTNAAT | TCAGAANTGA | ACN | |

1212RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GAGATCTCCC | AGTACGTCTT | CAAGCTGGGC | TTTGGCGGTC | TAGGATAGAG | CCGGCGGAAC | 60 |
| | TCAGGACTGG | TCGAGACGGG | ATGCTGGATC | CCGAAGCTCT | TCATAAGCAA | CAACCGCGGT | 120 |
| | TGCCGCGTGT | AGTCATCGAA | CCGTCCCTCA | GCGAATCCTG | CGAGTCTCCA | CCTGACATCA | 180 |
| | CCATTGCCCA | CGATGCACCG | AAGCGTTTCT | GGAAGGAACA | CGCAAACCTAG | CAAGAAGCCG | 240 |
| 30 | ATGCCCGCCA | TGATGCTAGT | GAAACCAAAC | AACCATCTCC | AACGGTCATT | ATCGAATAGG | 300 |
| | ATCAAGCCAG | CAATAATGGG | CGCCCAAAAT | CGGGCCACN | TTTAGGGCCC | CAACATNAAT | 360 |
| | TACGCAATTG | CCTTGCCCGG | GT'TTTTCGGN | GGTGTGAT | TCNCTTACCG | TACGGGCCCC | 420 |
| | TGAGAAAACG | AGAACTCNGA | GGAAATGCTG | CNCCCTNTT | AAAAAAATAC | NCCCATCGNG | 480 |
| | CAGGNTGAAA | GCANTTACNC | TTGACTATAA | ATCANCCCC | GANAAANTTA | NACTCG | |

1212UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCAGT | GTCTTCCGGG | ACGTCAACGG | CTTGACGGTC | TTGCGTACCG | TGGCCAGCGT | 60 |
| | CCGCACGCCA | TGAAATGCCT | GCACTGCCTG | CCGCAGTCCA | CAGTTGCGCA | GCGATGCCAG | 120 |
| | ACACGAAAAC | ATCCTCGTTA | ATGCAGCTTG | GGTCCTTCGG | TCGTCACTGT | GCGTCTCGAT | 180 |
| 40 | TAAGCCCAGG | TTATCAGTAA | CATCAAAATT | TTACATAACT | GCCACGTGAT | ATACACGTGA | 240 |
| | TAAAGATCTA | CACCCATGCC | CCCTGATTGT | GTAAAAAAGC | AACCTTTGAA | AAATTTTCTA | 300 |
| | CGGTTCCATC | CGATGAGATG | AGCTTAGCCT | AGTGCGAGTC | CAATATCAGT | GCACTAAGTT | 360 |
| | TATCCAGTGA | TACTTGTTC | CGAGCTTTCA | GCAACAGCAT | CAGTTTACAA | ATCGCACCAG | 420 |
| | CAGTTATCCC | TGGAAAGAAA | TCCTACGGTC | CGAACTCCCA | TGATAGTTTG | ATACGGCCCT | 480 |
| 45 | TACAGACGCC | AGCGAAAATC | CCACATCTCC | NGGNGGCTTC | AAATNNNCTT | CCGNGGTTCT | 540 |
| | AAAGCTTAGG | GGNATTCCCA | TGCANGGGTT | TATNAAATTT | GANAAAT | | |

1213RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTTTTT | AGAGAGTTCA | GTGTGCGGAC | CAACACGGTC | GGAGGCCCTT | CAGCTACTTC | 60 |
| | CAGAAGGTG | TAAAGAGTCT | CCAGTAGCCC | CAGGGTGCGC | TCGTGGTCAT | AACAGTCCAT | 120 |
| 5 | CTGAGGTAGC | GTGTTAATAA | CCGCTTTCAG | CATGCTCGTA | GAGGACTTCT | TTACTAGGGC | 180 |
| | AGAACTTATA | AACTTAAATG | TCTCGTCTAT | GCATTCAGGG | GTACGAAGAG | CTGCCAGTGT | 240 |
| | CCGAATGTCA | TCAGCCGATC | TGCTCGTTTT | ACTTTGCTCA | GAATCGCGCC | ATAGTTTAAC | 300 |
| | TNCNGTTCCC | AAATTAACCC | GGTTTCCCNG | GACCCTTTIN | AACAAAAAGG | AAAAAAAATT | 360 |
| | CCGTTTCCCC | CCCNCTNCCC | NNNTTGGGCH | AAAAATTTTT | TNCCNCGGGN | AAAAATTANC | 420 |
| | CCCCCNCTT | AAGNCCCATT | AAAAAAAAN | NNNNNTTTT | TTTTTTTTNT | NGGNGCCCN | 480 |
| 10 | NAAAAANNTN | CCCCNNTTTN | NAAAAANNGN | NGGNTTNNG | NNNNANANN | NANNN | |

1213UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCCAC | TTCACGAACT | CCAGCTCCGC | AGGCCGAAAC | GTCGTGCGCA | GCTCCGCTC | 60 |
| 15 | GCGCGACGCC | CCCACGTTCA | CATACACGTA | GAAGCGCCCG | CCCTCCGCGC | CTGCCGTGCTC | 120 |
| | CCCCGCGTAC | CGCGGCCCCA | GCGCGTGAGT | CACCCGCTTC | ACCTGGTACC | CCAGCCCCCG | 180 |
| | CAACCGCAGC | TTCATCTCCG | TTACGTATGT | CCCCAGCTCT | CCCCCGTCCG | CGCCGAGCGC | 240 |
| | GCCCAGGCAC | TGTGCCAGCA | CTTGCTCGTG | CACCGCCCCC | CGCGCCCGCA | GGATGCACTG | 300 |
| | CAGCAGCAGC | CGCCGTCTAT | CGTCCGCGGT | CGTCTCCGTC | ATTGCTCTCC | TGCGCCCCCG | 360 |
| | ATGCACGCAA | ATCCGCTCTC | GAATGCCTTT | GGCTGCCCCC | GGCTTGCGGT | GTCTGGGGTT | 420 |
| 20 | GATTGCCACG | AATGCTGAAC | CAAACTGACA | CATTTTGCCA | AAAGAAACGC | CAATGTCTCT | 480 |
| | CGAACGAATT | TCNCGNTCTC | GTTGAAGTAA | CCGCCGCGCC | CAGTTGGGTG | AAGCCGCTGC | 540 |
| | TGTTCCACCC | TATCCGGTAG | GGTTCAGCCT | TCCTGTGNTT | CCACTANTGG | NAAACNCCTG | 600 |
| | CTT | | | | | | |

1214RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTTCAC | GTCAGCCAAT | TCTGTGTGCT | AGCCCACTAC | ATTGTAGAGC | TTATAGATTA | 60 |
| | AACCTCGAAT | GCAATCATTG | GGGTAAGCCA | CAGCTTCTGT | AGTCTGCCTA | TAGCAGAAGT | 120 |
| | TTTCATCTTC | AAGGGTATGT | CTTGAAGGCG | GCTTTAAGGA | ACCCTTCATC | GAAGTACTGG | 180 |
| 30 | GTCTTCTTAC | CCCTCCGCGG | GAGCAGGATG | TTAGCCGGAG | CTTCTGAATC | AAACTCTTGC | 240 |
| | ACTTCAAAC | CTTGTCGTGG | ACCGAACGCA | ACTTTAGCTG | CGCCTTCAGG | TTTTGTTTCT | 300 |
| | TTACTGCCAG | AACTTGTGGG | CGGTGATGGT | AGGAATTTTC | TCCCATCTGG | GTTAAGTTCC | 360 |
| | TTCCATATCN | ATTGACACTG | CACGCCCCAA | CATTCTNAAT | TCCANANCCC | CTACCCCCCC | 420 |
| | NANATGTTAA | TTTTTCNGGT | TTAAAGGACT | TATCNNCCCT | NTCAATTTTT | CTTNAATNAA | 480 |
| | CTCCATTTGT | CCCNAAACNA | CAATTNAATT | CCCCTGTTC | TTCCCA | | |

1214UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCAAGACC | TGACGGCTTC | CTAAAAATCGC | TAAGTTTAGT | ACATAAATTG | CGGCAAGAAT | 60 |
| | TACCCAAATC | ACCTGCTGTG | GAGATACGAG | GCAAGCTGAG | CGGGTGGATG | TGCCCCATTCC | 120 |
| 40 | ACACCAGTAA | CTCTTTGGTG | TGTGGCTGTC | ATGGTACTGC | TCGCTACCGC | CGTGTTTACG | 180 |
| | GCCTTGCTTA | ACGGGAAGCG | ATGCCGGTAA | AGCCAAATCA | TGTAACACCC | AGCGATAAGT | 240 |
| | CCACGAGCAG | ATGCTGAGAG | GCTCGACCAG | AACGACGTCG | CATGGGTGAT | GCTACAGATG | 300 |
| | CCTATGCGTG | TGACAGGTG | AAGCAACTGT | GTTCTGCTTC | AAGTAATAGC | CAAACCTGGC | 360 |
| | GCGGTAGAGA | ATGACACTGC | GGTGTCTGTG | CATATGTTGG | CACTATGCAA | GGTTACAGAT | 420 |
| | TCGCAAGCTG | CCCGAATGTT | GGCCCAAATT | CGAACAACCA | GCCAGCTATT | GGTATGGAAT | 480 |
| 45 | TATATACAAC | TTGGTNGGGG | AGGAATTCCG | GTGAAAAACG | GCGCACCAGG | NAACTTTACT | 540 |
| | GGAACGGGAA | NCGGGNAATT | TCCCCCCCNC | CCCGGTTT | TGGAACCGGC | CCCNTTG | |

1215RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGAGCA | AAGTGATTCA | AAGCGATTTT | GGACGACGG | TAAGCTGCCA | GCGCAGGATG | 60 |
| | GCCCATCTGA | CTGAGCCCCG | AGGTTACGGC | AATGAAAGCG | CCCTGCGACT | TACGTAGCAG | 120 |
| 5 | TGGAAGCGCC | TTGCTGGCCA | GATTACAGAC | GCTAAACAGA | TTAATCTCGA | ATAGGCGTCT | 180 |
| | CCATTCCCTG | ATGTCCGCCT | CCGCGATGCG | TTGTTGGTAC | GAGACACCCG | CGTTCGCTAC | 240 |
| | GACAGCGTCT | AGCCGCCCAT | ACTCCGAGGA | CACCTTATCG | ATCACGGCCT | GCACCACACG | 300 |
| | CTCGTCAATG | ACGTCTCCGA | CAACATAGTC | GAATTCTCTG | CCATGTCTCG | CCTTCAGCTC | 360 |
| | CTGCAATTTG | GTTTCCGCCG | GTGCAACCCC | TACTACAACC | ACGTCCGGGG | TTGAGCACAA | 420 |
| | TCTGTCAACG | GTTGCCGCGC | CAATGCCACG | CGATGCACCT | GTCACAATTA | TAACCTTCAT | 480 |
| 10 | TCTTGGTTGG | TACTTTATCT | TCAATGGGCC | ACGAACGCTC | CCGCTGTGTG | TTTATATATG | 540 |
| | ACTTCAGGGG | CTGTTGGCAC | AGCTCACTAG | CACACTACCC | TTACATGTGC | ACACCAAGTC | 600 |
| | GAGAATGAAT | GGCACAGTTC | CATTTGTAAT | CATGATTATC | AATACAATAT | GTGTTGTAAT | 660 |
| | TATTGATTGT | TAATATGCAT | AATATAGATG | GTTATGATTT | GTAATACAGT | AAATATACGG | 720 |
| | TAAATATAAA | GTATTTTAA | GAATATTTAT | AATT | | | |

1215UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCGCCCCG | GGCCTACGTC | ACTGCAGATT | GGCGCAAGCC | AGGAACAAGA | GCGACACTAA | 60 |
| | GTCAATTCTGT | TTATGTAGAT | TGGGTGCGCA | GCAGCGCAGC | CGGCGCCGCT | GATCTAGCCG | 120 |
| 20 | TACCGCACCA | ACGCGCGGAC | GCATGCGGGC | CCGGCGCGCT | AAACCACGAC | CGTCGTGCCC | 180 |
| | GGTGCCRAAT | GACCGCGCGG | TCATCCACCC | CGCTCAGCCG | GAATGTAGAC | CAAAAAAAGA | 240 |
| | GTGTGGTTCC | AGCTCTCAAA | TTGGGCTGGT | CTCAAGGGGT | CGCGGCCCCG | CAATCGCCTA | 300 |
| | TATAAACGGA | CAGCGGAGAC | AGTCCGTGCA | CTGTCCAGGA | CAGGCACACC | GATGGTGAAG | 360 |
| | GTTATCATTG | TGACAGGCGC | GTCCGCGCGC | ATCGGTGAGG | CAACCGTTGA | AAAGTTGTGC | 420 |
| | ACAGCCCCCG | ACGTTGTGGT | GGTGGGAGTT | GCGCGGCGCG | AAAAGACTTG | AAGGTGCTGA | 480 |
| | AAGAGAGATA | TGGCAGTAAA | TTGCACTACG | TTGCTGGAGA | CGTCACCGAT | GAAAGCGTGG | 540 |
| 25 | TGCAGGCGGT | GCTCGACAAG | GTGTCCCTCG | ATTATGGGCG | GCTAGACGCC | ATCATAGCGA | 600 |
| | ACGCAGGCGT | CTCGCGCTTC | GAACGCATCG | CCGAGGCAGA | CATCCAGCAG | TGGAAGCGCA | 660 |
| | CGTTTGAGAT | CAATTGTTTA | GCGCGGTAAG | CCTGGTGAGC | AAGGCGCTCC | GATGCTAANG | 720 |
| | AATCCAGGG | TTACGGTGAN | TGTGGTTACC | TCNNGANTCA | ACNAGGTAGN | TANCCG | |

1216RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAAGTCT | TTTATCACTA | CAAATGAGCA | GCGCTTAAAT | TTCCAGAATC | GTTTACAGCT | 60 |
| | GGGTACGCTT | GCAAGCAAAT | TTGGCCTTTT | TGAGCTAGCG | GAGGAACAGT | TGCTCACGCG | 120 |
| | CAAGCGCCTC | ATGCGGCTTA | CAGAGCGCCG | CGAGCTTTAC | ATGTATTACA | AATCTCTCAG | 180 |
| 35 | CGCGTTCTAT | TCTTTAGCCA | AAATGCGGAC | CTGCTTAATA | GATACTCTGC | GTGCTTTTAA | 240 |
| | TAAAGAGCCG | CACTCGTCCC | TCCGTAACAC | ACTACTGGCT | GCGCTCTATC | CGAACACATA | 300 |
| | TCCTACTGGT | CCGCGGCAAT | AATGCAGAA | AAGAGGTCCA | TAGATGAGCT | GAACCAAGCA | 360 |
| | GCGCCANCAG | AATGTAATCC | CACCTATGCG | AACCTCNANA | NTGGAAGGCC | CTGCATACAT | 420 |
| | TTCCGGTCCC | ACCNACTTCT | GCGTTCTTTG | GCTTACCAC | CTTGTGAACC | GAATNGTGCG | 480 |
| | GCATGCCTTG | CCCCAAAACC | CCTGGAAATC | CATAAATACC | TCNCGGGGGT | TANCTGCGCT | 540 |
| 40 | CCCCCG | | | | | | |

1216UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTGTGAA | TATATGCTTG | GGGTGCGATTG | GTTTGCCAGT | GCTATAGAGA | GCGGTACCCG | 60 |
| | GCGTACGCAC | GGCAACTCTT | CGAGTTGTCA | GCCCAAGTAG | CCTGATCATA | TACAGGTGAT | 120 |
| 45 | GGATGGCTCC | TGTATACCTT | CCCACACTGC | AAGCCCTGTA | GTTGCTCAGG | TGTTACTGCG | 180 |
| | GCAGATGCTC | ACATCGCTTC | GGAGTATATA | GTCTGCGCTT | TGAGCCACTT | AAAAGGGGCT | 240 |
| | CGCCGGCTAG | CCCGGCCGCG | TGGTCACGTG | ATTGCCATCT | GCCCCGAACG | GAAACGTAAC | 300 |
| | AGGCCGTTGT | AACGTGGTGC | TCATCCGTCA | GCAGGCCGGT | CTCCCAATGT | ACTTCGCATA | 360 |
| | TGTTATTTTA | CGTTTATGTT | ACCTATCGAG | GGTCGCTCAG | GGTTATGCCC | GCGGTGCTGC | 420 |
| | CCTGCCACGG | AACCCGCAAC | CTGCAANCTT | CCCTAATTGC | CCATGGTGAA | TTGAACTCNC | 480 |
| 50 | AAGCTTATAT | CTCCTTGCTT | GATCCCCCAT | NATGCATTTG | AAGTTTCNCA | NAGGACAAGA | 540 |
| | AACANACNCA | AAAAACNAAA | TGTTTAAAGTA | AAATTGATTT | GGTGTTCCTN | CCT | |

1218RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 5 | GATCTTTGTG | GGCCACGACG | ACCACCGGAG | TACCGCCCGT | GGCTTGGACG | TACCACTGAA | 60 |
| | AAATGTTCTG | CATGAATCCC | ACCTTGATAA | TACCCATGGA | CCACTGGAAG | TTCTGCGACC | 120 |
| | ACGCAGCAGC | GATGGGTGGC | ACACGAGCCA | CTCCCATCAT | AGACGTGATC | GCCAAATTTT | 180 |
| | GGAAGTACGA | GAAAAGAGAG | ATCGAGTTCC | AAGCGATGTG | CGCGGCAGTG | GTTGAGTGCC | 240 |
| | CGATCACAGA | CACAAACCCG | GAAGTCCAGG | ACACCCACAC | CAGCTATCGC | GGCGAATCGG | 300 |
| | CCACGAATGC | ATACTTCGTC | TGCACCGTCT | TGCCGTGCCG | ACAGCACCCG | CCCTGCAACA | 360 |
| | CAGGCCCATT | GGATGCTCCG | TACTGGTGTT | TCAGCTTTCC | GCNAAGGCCT | TTACACCATC | 420 |
| 10 | CGTGTCTCCC | AGTTCCCNCG | AAAATATACC | CCNCCTTGGT | ATCTTCCCNT | GAAAAATCAC | 480 |
| | CGCCGAAATT | TCCCAGTTGA | ANCTCTTTTG | ATTCCCCCCC | CNTGCCCTCC | CCCAGNNCGG | 540 |
| | GANATTACAA | ACNAATNC | | | | | |

1218UP

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|----|------------|-------------|------------|-------------|------------|-------------|-----|
| 15 | GATCCACAGT | TTCCGCACTG | AACTTACTAT | CCCTCAGCAA | CCGCAGGTCA | TCGTCAAGCG | 60 |
| | TTGTGACATC | AGGCTTCACC | CCGTAGCTCA | TAATGCCCTGG | GACGGATGCC | TTGGTAGAGT | 120 |
| | AACAACCAAA | AAGGCATGTT | GGATCAGCTG | CATAAGCTAG | TAAAAAAGAG | CAGACGCCGC | 180 |
| | CTGAGCCACT | AAAGGCAACG | ACCCGCCAAT | ATATGATAAA | TAGAGAATAT | AGAATGTTGC | 240 |
| | CACTAGGCCA | AGATGACCTG | CATTGAGATC | CAGCGACAAA | GTGCCAGGAA | TTAAGGGATC | 300 |
| 20 | TTCAACATTC | CTGATCATAT | GAGAAGAGCA | ATACAGGGTT | AAAACGGCGG | CGTTTAAAT | 360 |
| | TTACAGACT | CAATCAAAATG | TTTCACAATA | CCTGGTTTGG | ACAAGTCCGA | GACATCCCCC | 420 |
| | TAACTGATCT | GCCTCCCCCA | GCCAAGGATT | TTGCGCCATA | TACGGGCCAT | ATTTTGCCCTG | 480 |
| | ACGATTCTTT | TGCATTCTCT | CCCGAACCAC | AAANACCTTA | GGGGCACNAA | CGGCCCATTT | 540 |
| | CCCNANNGAA | AAAAAAAATA | GGTGCTTTGN | ATNNCCCGNA | CCCCCCCCCC | CCCCCTNTTC | 600 |
| | CCNG | | | | | | |

1219RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| 30 | GATCCTGATA | TTGTACCGGC | TCATAAATAC | TTTGGATATC | TTCGGACAAT | GTATCGTACC | 60 |
| | CGATACCTTT | CAGCACATGG | ATCAGTATAT | CATGCTTCTT | CCTAAATGCA | GCAACAGTAT | 120 |
| | TGAGGACTTC | CTTCAGACTG | TCCGCTCTGAG | TATCTATCTT | CATAAAGATG | AACTTTTCGG | 180 |
| | ACCTCTTCCT | CATCAGCTCT | CTGATGAGTG | ACGTTGAATT | CTTTTAATAG | CGCTTCCCAC | 240 |
| | TGGTTTGATA | ATCTTGATAC | AGTGGTCCAT | AGTCTCCCTT | GGAAAGAAAT | GAAGTCGGAA | 300 |
| | GAAATCAGTT | TTGGCAGCAC | TCTCTCAGTT | TCTGATTCAA | CTCCCGTTAG | ATATTTCCCTC | 360 |
| | CCACAAATGT | TTACGGCCCT | ACAGTTGGTT | TCTTTTGANA | CCTTCACTTC | CNTCCNAAGC | 420 |
| | CATGAAAATG | ANTCCATCNC | CNCCCCCCCC | CTTTGTNAAA | NTTCCCATTC | GCAAAATTNCN | 480 |
| 35 | CAGTTGAATT | CCCCCANCCG | GGTGTTCCCC | GCGTTCCCCC | NAAAAAANAC | NGAGGGGGGT | 540 |
| | TTTAAAAAAN | | | | | | |

1219UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCGCGGCG | CTGCCGCGCG | CGTCGGAGTG | GCGCCACGTG | GGCCGGCCCT | TTTGGCCAAA | 60 |
| | TCCAGCGGGT | GGGCGGGTTT | CGAGCTGCTT | GACCTTCCGC | GGCATGTCAA | AGTGCGGCGT | 120 |
| 5 | TAGTTTGGTC | CTGTAGGCGA | ACTGTAGCGG | CGATGCGACC | GTCTCGCCGA | CGGTGGGGAG | 180 |
| | CAGGCCCTCG | GCCAGCAGCT | GGGGAGCAAA | GAACCTGAAC | GCAATTGACA | CGGTTCGCTG | 240 |
| | TTTGAGCTGC | AGCTGCTGGT | CATACGTCAG | GAACCTGATAC | TGGCAACCGG | AGCACTTCCC | 300 |
| | GAAGTACTTG | CAGTTGATGA | GGTCGTGCTG | GCGCATTTCA | GCAGAGGTCT | GCACCTCCAG | 360 |
| | CAGAGACGCT | TCGGCGTAGT | GCGGTGTGTC | TTGTGCACTT | GGATGGTGAC | CACGTGCGCC | 420 |
| | TGGCCAGCCC | AAATTTGGCAC | CCAGCACTAC | TGTTTCCCTG | TTTGCTATCC | TCCCAGGCTG | 480 |
| 10 | TCCAACAANA | CCCATCCCTC | CCCATCCACT | TTACNTCCAC | ACATCACTTT | CATCAGCNCC | 540 |
| | GGTGTGTTCT | CTGCTGCATC | GCCCCCGGAA | TTTNTTCAGA | ATGATTACTC | CTCCNCNG | |

1220RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| 15 | GATCGCGCAG | TTGTGCGCCT | CAGCCAGCCG | CTTTTPTGGG | ACGCGCGGGA | GCGTGTCCAT | 60 |
| | GTACCCGTCG | GGCACGCCCC | CGTCGCCCTC | GCCGATCAGC | TGCAAGTGCT | GCTGTAGCTC | 120 |
| | CTCCGGCATC | AGTCTCACGA | TCACATTTAG | TAGCGCGGTG | CTGTGCGCAT | CTGCCTCCTG | 180 |
| | GAACATGTCA | GCCAGCTGCC | TGCGAAGTTC | GGACCGTGTG | CCCTGGTCTG | CTGTGAGAGT | 240 |
| | TAGTATTCTT | GCCCGCAGTC | GGTGCGCAT | TGGCATCACT | TACTATTGTC | GCTGGGCATT | 300 |
| | CACCTCCCTG | GATCACTGGT | GCTCCCGGTG | GCGGTAAGGG | GCAACAGACA | GGCTTTTTTT | 360 |
| 20 | ATTTTCCTCT | ATAATACGCT | GCTCTATGTA | GCGTATACTA | TACAAAGTCT | AACTAAGGTG | 420 |
| | AAGTGAGAAG | TCATTATTTA | GCTGCGTTTC | GGCCGGTCACT | GCAGCCGGCT | ACCATATTAG | 480 |
| | CATGCCGCTG | GCCTTGACGG | CTTTGACGCT | GGGGGAATTG | TTGATGCCCC | AGGACCTTAT | 540 |
| | GGAGTTCAAC | CTCACGGAGA | GGTTTCCGAG | ATCGAAAATG | TCACTTTCCG | CAAATTGCGA | 600 |
| | CACACCGTAA | TACTCGGCAA | ACGAGTTCTC | GACACCGCTG | AGCTCGTCTG | CGACGTGCTC | 660 |
| | GACATAGGAC | AGAAGAGGCT | TGTTTCGGGC | TGGCGGGCGC | GCGCGCGCAA | CCGGAAGNCC | 720 |
| 25 | CCCCCANAG | CTGGCGCCNG | GCCGCCCC | | | | |

1220UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| 30 | GATCCAGAAT | ACTCGTCGCA | CCACTTCTTG | AACCGCGGGT | ACAGCGCGGG | GTCCGTGCGG | 60 |
| | TCCAGCGCGG | CCTTGTGCGC | CGCGTGGAAC | AGCCGCGCGT | CCTCCTCGTA | CAGGTAGCTT | 120 |
| | GGCGTCAGGT | CCGAGCCGCC | GCCGAACCAAC | CACGTCGCGG | GCTTGCCCGC | CGCGTCCAC | 180 |
| | GTCTCAAAGT | AGCGGTAGTT | GAGGTGCACG | GTCGGCGCGT | GGGGGTTTAC | GGGGTGACAT | 240 |
| | ACCAGAGAAA | TGCCCGAGGC | GAAGAAGCGC | ACGCCGCGCG | CCGGCTGCCC | GGTCACGGGG | 300 |
| | TCCGTGGGGA | GGTGACGGTT | TTTGTGCTCG | GCCCGCATGG | CACGTGACGG | TGCCCGCGAC | 360 |
| | AGCTCGCCGT | GGACTACCGA | GACGTTAAGC | CCGGCCTTTT | CGAACGTGGT | GCCGTGCTGC | 420 |
| | AGCACGCAAG | ACGTGCGGCC | GCCACCTTCC | TTGCGCTCCC | AGGAGTCGGC | CTTGAACCTG | 480 |
| 35 | ACCGTGTCGA | TCCCTCGGAA | CGCGGCTGTA | ATCTCGCGCT | GCTTGCGGCG | CACGAGCTCT | 540 |
| | TCCATGCGCT | CGCGCATGTG | GGGGGTGTGG | GCGGATGCCA | TTGCTGGGGC | GCCGCAAGAG | 600 |
| | GCGAAATNAN | CNGTGCGCCC | GGCGGCTTAT | ATAAAAAGCT | GGCACGGGTG | TTTTTGCCAC | 660 |
| | GNCACCANGG | GCTGCNAACG | TCCGCGCCAA | NANANCCAGG | GTCCCGGCCA | NAACACNTCG | 720 |
| | GCGGGCGGCC | NAACGCCGCC | NCNCACAATC | ACNCCGACAA | TCCGCGCNCNG | GGATTCC | |

1221RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCTCTGCT | GTTTGGGCTT | GCAAGCATCT | TCCTCGCTAA | CTCGTTCCGC | GTTTACGTTT | 60 |
| | GAGGTTGCGG | GGACGTATGC | TANACCGAGG | GCAATTGCGG | GTTGAGGGGA | AGAGGTTGAG | 120 |
| | ATTATGAATG | ATATATACTG | TTATACCGGC | TGCGGGTGGC | TGTGCGCGTC | ATCACGAGGG | 180 |
| | ACTTACAAGT | TCAAAAGGTC | TTTATCGATA | TTTACCAACT | TGTAATAACG | CTCTTGTGAG | 240 |
| | TCTGAGTTGG | AGGAGCCGGG | CTGGTCGCCA | TACTCCATCA | ACGTGTTTAC | CATTGCGCGT | 300 |
| | GTA TAGCTGA | TCAGGTTTTC | GAGGGATGAC | TCGCTCTCCT | CCTTTAGGAA | CATCAAAATG | 360 |
| | GTGGTGTTC | ACAANCNGGA | AAACCTATCC | TGTTAGTNN | GAAGGGTTGA | GAACACCGCT | 420 |
| | AATCCCTTAG | GCACTCCACC | ATGGTTTAT | CCGTACCCCA | TTACCCAAAT | TTCCCCCAAG | 480 |
| 50 | TGCCCTTNA | CTTTGNCGAA | CCCCCGCNA | ATNCCCGT | TTAAAACCCN | AAAAANG | |

1221UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGACCCCT | ATCAACGCCT | TGCAGGCTGC | TATGGAGGGC | TATCAGGTCA | CCACTATGGA | 60 |
| | CCAGTGCGCC | AGCTACGGCC | AGGTTTTTGT | CACCACCACC | GGCTGCAGAN | ACATCATCAA | 120 |
| 5 | GAAGGAGCAC | TTCTTGCCCA | TGCTTGAGGA | CGCCATTGTG | TGCAACATCG | GCCACTTCCA | 180 |
| | CATCGAGATC | GACGTGCGCT | GGCTAAAGGC | CAACGCCGTC | GANGCCGTCA | ACATTAAGCC | 240 |
| | ACAAGTCGAC | CGCTACTTGC | TTTCCTCCGG | CAGACACGTC | ATCCTGCTTG | CCGATGGTTA | 300 |
| | GACTAGTCAA | CCTAAGCTGT | GCCACTGGCC | ACTCCTCCGT | TTGTCTATGT | TTGCTCTTTC | 360 |
| | TCCAACCAGT | CTTTGGCACA | GATGGTCTCN | TTCAAGGGCA | ATNAAAAGGC | CTTCAANAA | 420 |
| | ATTNNTTNT | TTCCCAAAAA | ACGGCCNTCA | AANCGGNTT | CATTTCTTNC | CNAAAAATTGN | 480 |
| 10 | AAAGGCGCNC | CCATTTCCCC | CTAAATTGG | GTMTTNTTTT | AAAACATTCC | CCCCCCCCCA | 540 |
| | TTTCCGGGTT | CCCAAAAGGG | TNTTTNGGGG | NCCCTTAAAT | NTTA | | |

1222RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCGAATAA | TAAAAGTGGC | TAATACTTGG | TAATAATATA | ATAGAAAGGG | AAATAGAAGA | 60 |
| | GAAGTCAAAT | GGGAAATAGT | CAACGGCGTA | CTAGGTGAGT | GTTCACTTGC | ATGGAATCGT | 120 |
| | AGTCAGAGAG | GTTTATCAAA | AACGGCAGTC | GTCTGATGAT | AGCAGTATCA | CGAAGTGCTC | 180 |
| | ATGCGCCCTG | CATACAATGG | CAGGCTCAGC | GCAGGATCAA | ATGGATAGCA | GCGGGCGTAC | 240 |
| | CCGCGAACGG | ACTCAGTGGG | TGGAGTGGCC | CCGGTGGTAC | TTGAGGCCGT | TGAGGTTCTT | 300 |
| | GTAACGTTTG | CCACAGACCT | CGCACCGGTA | AGGCTTGTC | TTCTCGAACC | CATGCCCGTC | 360 |
| 20 | TGGATAGGGC | TCGTTGGACT | CCGGGTCCAT | GATGCTAAAA | GTGCCCGTCT | GGGTTTTCAT | 420 |
| | GAAGCTTTTG | ATTCTGGTGG | CCGTGGTTTT | ATGGTACTTG | AGTCCCGTTT | GATCCTGGTT | 480 |
| | AGTCTTATCG | CAGCCCATGA | GGGACNNTTG | AAGGCTTNTC | CCCNCCTTGT | CCNEN | |

1222UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| 25 | GATCTCGCTC | AGACCGTCAC | CCACGTTGTC | TGCAAGGGCC | TCCGCCGCTT | TANCTGCCTG | 60 |
| | CCACGGCTTG | GAGCACGCTA | GCTGCACGCC | AAACCCGGGC | AGCTCCGAGC | AGTGCGCCCTT | 120 |
| | GGGCAGCGCC | CACCTCCGAGT | TGGTGCCCTG | GATCAGCGGC | ACAGCGAGCG | CCATCTCACT | 180 |
| | GTACGTACG | TCGGCGCCCA | ATTGGCGCAT | CAGGCGCCGG | AACGGCAGGT | TCCCGACGGT | 240 |
| 30 | GGTCAGCGGA | GAAACGATCT | TCTTGTGATG | CAGGTCCAGC | GGCTTCTTCT | CCTGTGCAAA | 300 |
| | GTAGCGTGTC | TCGTGATACT | GGGCGTACAG | CTCGCGCTGC | CGGGCGCGCT | TGTTGCTCAA | 360 |
| | TTGCTCCTCC | CGCTGCTGCA | CCTGCGGCAC | CTCTGCGACC | GCGCCTCCGG | GGCCGCCGCG | 420 |
| | GCCCCCTGCA | TCTCGTCGCC | GGAACCTCTG | CTGGATGGCG | TCAAAATTCC | ACNATTTCTC | 480 |
| | CCTGCNCNGG | AAGGGCCCAA | NTTTTCCCCA | ATNANCNCCA | ATGAACCATT | GNTNCCCCCN | 540 |
| | TGGTTNCAAA | ACNAATTTTG | CCCCCCCCCG | AGATTNTCCC | A | | |

1223RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| 40 | GATCGGTTTT | CACCTCAATT | CGTTTCTGGT | CGCGCAGTTG | GTGATGCTGC | TGATGCTGAA | 60 |
| | GCTGTAATTG | CTGTTTCTGC | TGAGCAAACT | GCTGCTGCTG | TTTCATCCAG | GGATTCTCCG | 120 |
| | GAGGAGCTGA | GTCCGGTTTG | CGCCGTCTCT | GCTTGTCGTT | CAACAAGTTG | TTATATAGCT | 180 |
| | GGTTCATACC | TTGGGAGGTC | AGGAACTGAC | TGACATTGCG | GTCCGCCCTGC | GGGTGGTCTA | 240 |
| | GCAAACGGAG | CATGGCCTCT | CTCTCCTGTA | GAGTTTCTTT | TGCCGCCATC | TCAAACCTCC | 300 |
| | TAGATTCCAT | TATCAGCGCT | TCTTCTCTCAG | CAATCTCAGC | CGCCGACCTC | GAAAGCAGCC | 360 |
| | TCCGTCAAAT | ACTTCTTCCG | CTGTATTTCC | CTGGTCTTTG | GAATACGCTA | GGATGGTAGT | 420 |
| | AGCGGTTTCC | CCGGGTCTTT | CGCCCTGAAA | TTATTTTGGG | CATACGNGGT | TAAAAATCTC | 480 |
| 45 | CCCGTANTTC | CTCCAACGGT | CCTNNANNCG | NCNTAAANAN | ACNGGTCTNGT | AAATNATAGC | 540 |
| | NNCC | | | | | | |

1225UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCTACTG | GAACCACCCA | CTCAGGAGCA | GGTTAAAAAA | CCAGCCAAAG | TAAAGACAGA | 60 |
| | GACAAACGTA | AGCATCCCCA | AGCAGACCCC | TACTCCAAAG | TCTAAGTCGG | CTTCAGCTTC | 120 |
| 5 | GTCTTCTAAA | GTGCCTACAC | CCCTGTCAAA | GCAGGAGCCC | GAAGCGCCGT | CTACCATTTT | 180 |
| | TGACGCTCCT | TCTTCCTCCT | CCTCCACTCC | GGTGCTGGG | CACCTGGATA | TCTTTAGCAA | 240 |
| | ATTTAGGAAA | GCATCCAGTG | ACTTTGACAA | GCCCTTTGTG | GCCGAGTCGA | ATGAAGTTGC | 300 |
| | CGAGAAGCCG | TCCGGGAAGG | CCAAACGGCA | AACTACTCCC | GCTGCCAGCA | AATTAAGCC | 360 |
| | CGCTGCAAAG | AAAATAAAGA | CGCCCCGCGT | CGATGAAAGC | GAATCTGATT | TTGACCTTGA | 420 |
| | CCTCAGCGAC | TCCCAGCCCG | CCATCGCCCC | TAGAAGTAGA | GCCTCGCGAG | CTGTGCCCCA | 480 |
| 10 | AAAGCCAACC | TACGTAGTTG | ACCTTTCGGA | TGACAGTTTT | GTTGATGGAG | ACGCCAGAG | 540 |
| | ATGTTGAGGA | ACCGATACTG | ACGAATCCTT | CCAGCTCTGA | CTAGCACTCT | AGCTCGCGCA | 600 |
| | TTGACAGTNC | NCTACCTTAT | GGAGGNTTCC | GAAATCCNTT | GAATACCCCC | CGTTTTTTTAC | 660 |
| | TAAAACCCCC | NCTTTCCTTT | TCACCCCCCA | ACCCCCAGGG | GACGAATACT | TTTTTCTTTA | 720 |
| | CTTCTATCA | NGGGGTTCTG | CNCCNCCCNT | | | | |

1226RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTCTTC | GCATGGGAGC | ATCAGATGTC | ATATCGGCGA | AGCCTTTCCA | TATGGCGGCT | 60 |
| | ACGAACGATA | CGAGTTCCGC | TCTGTCTTGC | GCTGTTGGGG | TCTGTGAGCG | TGCTGCTATT | 120 |
| 20 | GCTGTGCTG | ACGCCACACA | TGTGGCCTGG | ATGGCCATCT | CCGGCAGCAC | GGGAGGTCCT | 180 |
| | GGCTTCACCA | GAGTCACAGG | CCCCGGCTTC | ACCAGAGTTA | CAGGCCCCGG | CTTCAACACA | 240 |
| | GCCACAGTCC | CCAGCAGGGT | CTAAGACGCT | ACTGCAAGAC | TTACTGCTAG | ATAGCAAAAA | 300 |
| | ACCGGAGGGG | GCCTCTACGC | CACAGATGCA | GTGCAAGCGC | TACTTTGAGG | GCACATATCT | 360 |
| | CCGGAGGCTC | TCTTGGGCAA | ATAGCGTGTT | GCGCATGGCA | GACGACTTTC | TTACGGCTAC | 420 |
| | GCAATACACA | GCGAGGCTGT | TGGAGCGGTG | GCGCATATTT | GCTGATTGTT | TCGTTATTCA | 480 |
| 25 | GATTTCCGAT | TTTCAAATAC | NCTATCCAAA | CAAAAAAAC | TGCCCAANTT | CCATCAGCGA | 540 |
| | ANTTCCCTTT | TCNTNGGCAA | AAAAAAAAN | NGAGGANATT | TTGCCTNTCC | CCNGAATTTT | 600 |
| | NCCCGGAAA | ATTTTAAAGG | NGGNTTTTTT | GNAAANGGGC | CCCACCAAAA | NANAAAAGGN | 660 |
| | GCCTTTTTTG | GAAAACGGGC | CCTTTTCCCC | GGNGNGAACA | AATTNNTNNN | GGGGACGCCC | 720 |
| | NGAATTTTC | | | | | | |

1226UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGCTTCA | AATTTCCAGC | CGTTGATATT | CAAAGAGTGG | TCACGTTCCG | AAAGATGGTC | 60 |
| | CTTCTGTTCC | TCTGTACGTT | TGGAGGGCCG | GCCTACCGGG | GCGTTCCGGC | TTGTCTCCAC | 120 |
| | GGTGCGGTGC | TGTCCTATGG | GGACATCCTG | GATGTTGTTT | TGCAACGCAT | TAGCAAATGA | 180 |
| 35 | GTTTTTGTAG | TGGTACTTAG | GAAGTTTATA | ATTTAGGCTC | AGTTCTATAC | TGCCGCTAAT | 240 |
| | ACTTTGACCT | GGAACAATCA | TGCTTATGTG | CTCACCTCTG | GCGTGTCTCT | TAGCGTATTC | 300 |
| | CCGCGGTGCT | TCAGCATTTG | GTTGTTCCCTG | GATCGTTGGG | TATGGATCCT | CCCACCTCTG | 360 |
| | TAGCCAGTTG | GTATCCAGCT | TCTCACCCCTG | CTGATGCGAT | TCTGGACGCG | GGGGTTTCAG | 420 |
| | CAGGCGTTAG | CAATGAAGTT | GGCGTTGCCG | GTTCAAAAAA | AAANACCGGN | GGGGGCTNCG | 480 |
| | TAANCCCGNC | CCTTTAAGGG | CGGCCCCATA | TTNCNATNA | CCNNNACCGC | NCCCCCATN | 540 |
| 40 | ACGCCCCCAA | AANATNTTGT | AAAAAATTGC | CNTACCTTTT | TGNGGGAGCC | CACNCTTA | 600 |
| | NATAACCCAT | TTTTTGAAAN | ANGCCNNTCT | TTTNTTTAAC | NCCNCGGTTT | NCNANTATGC | 660 |
| | NGGGGCAAAA | TTAAACCNCC | CCCCCNAAAT | GNAATCNNTT | TCCCCTCNAA | NACAAAAAAT | 720 |
| | ATTTTNNTTT | NGGGCNGGGA | AT | | | | |

1227RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGATGAA | CAGACTGGAG | AACAGAGAAA | GGTGGTGCCC | CTCGAACTCG | AACGGTTTTT | 60 |
| | CCCGCTCGAT | TTTGATGAGA | TATTACTCCG | GGATACGATG | CAGAGGAACG | CAGCTATGGA | 120 |
| | AGAGGAGGAC | TACAGGGAGC | TGGGGAAAAG | AGATATTGAG | GTGGCGTTCC | AGAACACCGG | 180 |
| 50 | CGTGACGCTG | GATGACAGCG | TCCAGTCGTT | GCCGGCCATA | TCCGCTCTTC | GGAGGTATGT | 240 |
| | ACGGGATATC | GACGGGATGT | CGGAAGCGCT | TGCGGACGGG | GACAGGCACA | TCATGTTGTT | 300 |
| | TGCGCCGACA | AATGACGCCA | TTACGGCGAT | GCCCCAAGAAG | CCGTGGGAGT | ATCCACGGAA | 360 |
| | CATCGACAAG | TTGGAGCAGG | CAGGCGCGTC | TGCGAGCGAA | ATCCACGACG | CCATCCAGGC | 420 |
| | GAATGTGAGA | CGCTTTGTGC | TAACCCACGT | GGTTTCCGAC | ATCCAGCTCT | CTAAGGTGGT | 480 |
| | TCGGGAAGAT | GTCTCCAGCC | GTGTTTGACA | AGCGACTTCA | TCCCAAGAGC | ATGCAGGGGA | 540 |
| 55 | TATTCTTTTG | CGCCACAGAT | GGCAANGGTT | TTACAGTNTC | NTCCAANANN | GGGCGGACCT | 600 |

1223UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCGCGC | TTGAACATGG | ACGTGGACAC | GGCGAAGTGG | CGCTGGAGCG | CGCGCACCGC | 60 |
| | TGCGTCCCTGG | AGCTCTGTGT | GTGCCATGGT | GCGCTCTGTC | TTGAGCTGGC | GCACAACCGC | 120 |
| 5 | GGCGGATATG | GCCTGGACCC | TACTGGCGGC | GAGGACATCT | GGTAGCGCGG | CCGCCCTGCTC | 180 |
| | GGACTTGACC | ACGACAGTGG | CGACGCGGAC | CTTGGTGGTC | GGCGCCGTGA | ACGCCGTGTT | 240 |
| | GACTGCAAAG | TGGTCCGAGG | GCGCGATGGT | GCCGGGAGGG | AGGGGTTTTG | GTGAGGATGC | 300 |
| | GTGTGCGCGG | CGCGACGGCG | AGCGAGATGA | GCTGGCGCTG | CAGCTCGGCA | TCTGGATTGC | 360 |
| | GGTCAGGTCC | TGAATCTGCT | CGGTGGTCAG | TTCTGCGTAG | TCTCCGGAAG | AACAGGAAAA | 420 |
| | ATGGTTGGCG | GCAATGTTCA | ACATCCTTGG | CNCCCTGGGT | TAAAAATGGC | CGAACTGGNN | 480 |
| 10 | GCCGATTTCC | CCGAGAACCC | ATTTTGTAT | CCCCCTTCCT | TCTGCNTNCC | GATTTTMTTG | 540 |
| | CAAAANTNAA | AACCCCCCT | AAGAAGANN | CGGGGNNGCC | CCNCGGCGGN | TTTTTTTTTC | 600 |
| | CNCCCCCA | | | | | | |

1224RP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCAGTAAC | AACCATAGCA | GCCGCACCTA | CGAAAGCATT | CGATACATTT | TTAATAAATT | 60 |
| | CGACAGCAGG | TAGTAGTCTT | CTTCCGGATT | GCTTTACAGG | CTCGCTAAAG | ATGTGTTCCGT | 120 |
| | AGCTCTTTCCA | AAGAGAAATT | TGTGTAACCT | CAGAGTCAGC | AGCGGACTCA | AAACAGCACC | 180 |
| | TCAACCAAGC | GGTTGACCGC | ATAGGTTTAT | TCAAGCCCAA | TAGTTTTTGG | AATAGATCAG | 240 |
| 20 | GGGGAAGAGT | TGGAACATGC | GTAGGGGGTC | TCCGTTTTAC | TCCCTAACT | AGTTTTATCT | 300 |
| | CTACTTTTGA | AAGATAGTCG | TAGTCGGGAA | GCTCAACATT | GTAAGTCAAC | AAGCTAGGCA | 360 |
| | AAACTGTAGT | CAAGATTGAG | TTCCGCTCAG | GGTTTTGACA | ACAGAGTAGT | TATTTCTCTA | 420 |
| | CTCCCCAGGC | AAGATGTACT | GGTATAGAAA | ATCCAGTTGA | AGCCATAACC | AGCTCGTTGT | 480 |
| | CACAGTCCAC | CAGAAGATAG | GANACATCAG | GTTGAAGAAT | TCCCTCATCTA | GGTTATCTGC | 540 |
| | TGCCTTTTCT | GTTCTGCTTT | GGACCAACCC | ACAACCCNAA | AACCAACGCN | AAATCAAANA | 600 |
| | CCNGGTTTCT | TCCTTGNTCC | CCCCNAATGA | AANAGGTTTT | GAAANGGTTN | TCCCTCTTGC | 660 |
| 25 | CGGGCCAANT | AAAAAAAAGG | CCNCAGGNT | CNACNATATT | ANCANTCCCC | NAAAAAGGCC | 720 |
| | TTCTGNTCTA | A | | | | | |

1224UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGGGTGC | GGCACATGCC | TCATCGGGCA | GGTGGGGTGG | CGGAGGCATA | AACCCACCCC | 60 |
| | TGGTTGTTGC | AGTGAATAGG | TATGGGTACA | GCCTTGCCGG | CCACGAATGT | GCGGAGACGT | 120 |
| | TTCAGCTGCC | AGAGGGACCC | GACCGCACCG | GTGGACTGTT | GGCTTGGTTG | GACGCTCCAG | 180 |
| | GGTTACGAGC | CGGCGCCCTG | CGGAGCACAT | GATGTCGAGC | TGTGCATTGG | TCCAGGTGCG | 240 |
| | CACCTAACAT | GCCAAGGGCA | TCCGGCCAA | GCGGATGGGG | CTGGACGGCG | CCAGGGCGGG | 300 |
| 35 | ACGACTATCA | CTAAGAAATC | ATCAGTTAAA | ATATAAATA | CATAAAGTAA | AGGGCGGACT | 360 |
| | GAGTGCACTC | TCAGCGCACT | AGCAGCGAGT | AGCCGTAGTT | GAACCACTTG | CNTGCGATCC | 420 |
| | GTGGCAGCAA | GCGGAAGTAA | CCGGAACCTC | GATAGTTTCA | AACGAAGAAC | CGAAAAAGCC | 480 |
| | TTAAAAATGG | TTACNCCCTA | GGTCCCCCAA | CNGGTCCCTC | TGTTTGGAA | TAGGGTGGGC | 540 |
| | GGAAACCCAA | ACTGCCCAN | TGTTNTCCAA | TTCCCCGGNG | GCCCCAATTT | NAATTTCCAA | 600 |
| | ACCNATCNCN | ATCTCGGCTG | NATCCCCCCC | NTTGCCCCCC | TCAATGGCCC | CGAACCTTTT | 660 |
| 40 | NTGNCCCCCC | CCCAAGGGCC | CTTGNGNATT | TTTTTCCCG | CCCNCCCCGT | TNTCTTAAAA | 720 |
| | NAAAGCNGCA | TTTTTCAATT | CCCCNGGAAC | NCTTTTTTGT | TT | | |

1225RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCTTTTC | TTTCTTCTTC | CCTCCTCCGA | GGATTCCCTT | TTTGAGCTTG | CCCCTGCGC | 60 |
| | CCAACCCACC | GCCTATGACA | CTAGTACCGG | CGGACAGACC | AGCGGATAAG | CCCTTATTGG | 120 |
| | CAAAATCGCC | AACCTTTGTC | TCCACCTTGG | TAACAGAGAC | AGTGTAACCTA | GGAGAAAAAT | 180 |
| | TGAAGGATCA | GTAAAGATA | CCACCGTCCT | CGCCGTTAGG | ACCAGTTAGC | TGGACTTCCA | 240 |
| | TTGGGGTTTC | ACTGTCTGGG | TCCACCTCAG | CTAGAGCGAT | GGTTGCGGTG | CCAATGAGAT | 300 |
| | CGTCACTGTT | TCCGGCATCC | CAGTCCATGA | CCTTGATGCG | CAGGTAGTTG | TTAATCCGGT | 360 |
| 50 | TATTCAACTG | CAGGGATGTG | TTCTCGTTCC | AAACAGGTTT | AAGCGTCTTC | TTCTGGGTTT | 420 |
| | TTGGTCTTGT | ATATTACCTC | ATCTGAATTG | TCGAGGTTAG | AATTTGACAT | AAGGTCCGAC | 480 |
| | TTGCCGTTCC | GGTCAGCAGG | TAGAGCCTGA | CTGCATTTAG | AACCTCCAGT | GTTAGGTCCG | 540 |
| | AGTGTTCGTA | TCAGTTTGCT | TGTNGCATCT | CNAACCCAAA | AAGGAACAC | AACCGTTANN | 600 |
| | TCCTTTTGNG | ACCCAACCTT | NTTTACAANN | AGGTTTAAAT | TACANTTTCN | ATTTNTTTGN | 660 |
| 55 | TGGAANGAAC | CCCNAAAGNT | CCNCCTGTTT | TACTGANCNT | NNTCCCNAA | | |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| TGCCGTTNAG | ANGTTACCCC | CCGCTCTAAC | GGTTTATTTT | GGTTNTCACN | CCCCCTTGGN | 660 |
| TGCGAATTTG | AAAACCCCTC | NCCTGNCCCN | NCCCAATNAN | TCNCTTGAAT | CCCCNTTTNG | 720 |
| GAACCNCCN | TTNCCCCCAN | CNCC | | | | |

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1227UP

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|------------|-------------|------------|------------|------------|------------|-----|
| GATCATTTGC | CGGACCAAGA | AATATTTTCA | CTCCTCGAAG | AGCTGGCCAC | TAAACTTCGT | 60 |
| GTCTGGTTAG | GTCCGCTCC | AGCTGATGTG | CTAGATATCG | AGGTGAGAGG | TAAGCTTATT | 120 |
| GAATACTGCA | TGAATACTGC | ACTTTATTGC | GGTGGGAAAA | TAGAACATCC | TACATCGACG | 180 |
| ACTTTGATGA | CTGACCATGA | TGAAGACGAA | TCTGAAAGCT | CTGATTCCGA | ATAGTCCAGG | 240 |
| CAAGTTAATA | CCCAATGCTC | GGCTTTAGCC | TCAAGGGAGA | TATCGGTAAC | AGCTCTATCT | 300 |
| ATGCTGCCAG | CACGTACGAG | TTTTTACTAA | ATTTGGCATA | CAGTTCATGG | TATTTGACAT | 360 |
| AAGCTTAATG | TTTCATTGCG | AACACAAGGC | TTGCCGATGT | GTAAAGTGCG | CCGCGTCTCT | 420 |
| GCAATCAAGA | CAGCATACAT | GAACTTTCAG | TTTTATACGC | CGATCATGTT | GATTTCTAAT | 480 |
| AGGGCTAGTC | CATGGCCCCCT | ACCTATAATA | TACTACCATC | CAGCCCNCCG | AACCGNAACN | 540 |
| NNATTTTITA | TTTTAATNAA | ATTTTGGGGG | NATNCCACAC | NNNCCCTANC | NNGGANTTCC | 600 |
| AATGTTTATT | TAANTNAAAA | ANCAGTTTGA | AGGGTATTCC | NNCNCCCCNC | CCCACNGNT | 660 |
| TCAAAACCAA | ACNANACCGT | GAAGCNNGTN | NTCCCCCNCA | AGGAGNGCCC | CCCCGCTTCN | 720 |
| AAAAACGGTN | NCCTTTNCCN | CCCTTGNCNA | ANATTCCCCC | CGCTGCCC | | |

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1228RP

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|-------------|------------|-------------|-------------|------------|-------------|-----|
| GATCCATTGG | GCCCAACGAT | GCTAATGAAG | TTCTTGCTCT | CAAAACCCAC | ATTGTGCACA | 60 |
| CCCTTGTAAG | ACTTGAAGTT | CTTCACTCTC | AAGCCAATCA | GCCTCCCCAT | CTTTTTGAGA | 120 |
| CACTGAAGCT | CAGTCTAACT | GCTCTCGATG | TTGTTAGTGC | GCTGTTAATA | TGTCCAAACA | 180 |
| AACGCGATCA | TGGTTGTGAA | GAAGTGGCGG | TTCCGCATACA | CGCTCAGCAC | GTAGCCACAGC | 240 |
| GGCCCCGCGG | GCCCGAAGAT | CACCTGAGAT | GGCAGGAACA | GCGGCGTCCA | CAACAGCACC | 300 |
| AGAAATACCA | AAATCGCCGC | AAACGTTATG | ATGTACAGGA | TCACCAGAGT | CACCGCTGA | 360 |
| ACCCAGATCT | GCCCGTGGCC | CATCCCGACC | ACCATCGACT | GCCTGAATTA | GTATATTCCG | 420 |
| TCCCACCTGC | TGTTTCATAC | ATACCACCCC | AGGGCACACC | AGGCGGTAAC | AACCCCAAAG | 480 |
| GNGTCCCTAG | GGAGCGCATG | CAAAATATCC | ACNCTCCGCA | TGGCATCTCC | CNNTTGGAAA | 540 |
| GGGNCNCCCC | NAAATTTGGG | CCNAAANCCC | TTAAAAGGNC | CCTGTGNCCN | CAANNACTTC | 600 |
| NAATTTCCCG | NTTNGGCCCC | CCCCCCCCCTC | CAACGGGATT | TAAAACAGGN | GGGNGNGGGA | 660 |
| AAAACCCNCG | AGGGGNTTTT | TTTNGCCCCCT | TTCCGAAANA | ANCCNCCCCC | CCNGGGAAAA | 720 |
| AAATATTTTTT | TTTTNGGG | | | | | |

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1228UP

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|------------|-------------|------------|------------|-------------|------------|-----|
| GATCATGCCA | TTCTTACGCT | TTGCCACAT | GGACGCCCAA | ATGAATTTCT | GTGTATGCGA | 60 |
| GGATGCTGAC | GATGCAGCTG | AAGCAGGAGA | CGACAGCGAT | GTGACGCCTG | GTTGTATGAC | 120 |
| GCCTACTATT | TCACCTGTGA | ATACTTGTTC | TTGGCCCTCT | GTAGACATAA | TCTTGTTAAG | 180 |
| GACAAAGCTC | CTGCTGTCCG | TGTGTATCAG | GTCAAGTAAA | GTAAGCGCCT | TAAATGCCAA | 240 |
| TTTGAGATA | CCGAAGATTA | AGCATGCCAA | ATCGTTAGCC | GCCCTAAACT | GCCATGGGTG | 300 |
| ATGCTGGGAA | CAGGTAAATA | TGGCCTGAGG | TGCTGTGTAC | TTA CCTGATA | TAAAAGTATG | 360 |
| CAGTATGCGG | GGCGCTTCGT | ACGTTCTGCT | GTAGTCTATC | GGATCCTGGA | TAGATGTTAG | 420 |
| TTTCATCGGT | AATGGTTGGA | GATAATTTTC | GTCTTGCGAG | GCCTGTATAG | TAGTTTCTTG | 480 |
| TGTTTGAATA | TTTCATGAAAT | GGTTGGGCTA | GCTTTCAGCA | GCTGCTTCTT | TAGTTTCTTG | 540 |
| TCATACTGAC | TTCTTCCGAG | ATCTACNCCA | CCGNTTGGG | GCTGACCCCA | GCACACTTAT | 600 |
| GATTTTTANA | AGGAATCCCC | GTAATCCAAN | GCCCTTNCNT | ACCCNGTCCC | AATNGTTNCA | 660 |
| TCAAAANGTC | ANNCCCTCNA | TTCCNCTTIT | TCTCNCCAAA | ACNCCACANT | TAATTGAANA | 720 |
| NGNCCNTTTC | ACCGCGAGAG | GTGGCGNC | | | | |

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1230RP

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|----|-------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCCCGGTA | GGCGTCTGGC | GGCATAATGT | CTGCCGTATA | GGTGGACTCT | GGCTGTATTG | 60 |
| 5 | TCCGCAGGGG | AATGGCATGC | TTCTTG TAGA | AATACAACCG | ATCATAGGGC | GAGCTCATAT | 120 |
| | CCACCGTACG | TCGCTGGGAC | ACGTACTTTT | TGACTGAGCC | ATCATTCGCG | CTGTTCAATTG | 180 |
| | CGACTCTAAT | CTGATT CAGA | ACCGTGACCT | CTAGTGCTAT | AGCGCAOGGC | GTACCTGTCT | 240 |
| | GATGATGCGC | TTTTCAATGC | TCGAGCGTGC | GCAGTGTTAC | ATCGATCGTC | GCGGACGATG | 300 |
| | TTTAAGCAGG | ATGCTGAGCT | AATATGTATC | GGTATAGGCT | ATTGGCAGTA | GACCTGGGTA | 360 |
| | TATACGCC TA | GATATGGACA | AGATGCTGCG | CCTAGACATC | CAGAACTTAA | CCAGGCTCGG | 420 |
| 10 | GTTAAAGCCA | CCCAGATAAC | ATTTGAACAT | TAGAACAATT | ACCACCGCGA | ATGGAAGGGA | 480 |
| | ACCCAGT CGA | AACCCACACG | CATCCAATAG | TTTCCCCCAA | CNCGGAAANG | GCAGAATGCA | 540 |
| | CCGCCCAATG | CTGCCCAAC | GCCCCAGGCC | ACCGTGACCC | CATTGACCTN | GAAGCCCTGG | 600 |
| | GGCNAAACTG | CATTTTACCC | CCCCCATTN | GGAAAAANTG | ACCGAATAAA | ANNCCCCCN | 660 |
| | AAAAANAAN | GGCCNCCCC | AATTACTTTT | TNNCCNNGG | CCCNAAACC | CNNGGCNNA | 720 |
| | AAAANNANTG | GGGGGGGGTT | TCCGNRNTTT | AAAAGG | | | |
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1230UP

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|----|------------|-------------|-------------|------------|-------------|-------------|-----|
| | GATCTTCCGC | TCCACTTGGT | TGGGCTGGCG | CATGTCAAAG | GTTAGTAAAA | GCCCCGAATC | 60 |
| 20 | GTGTACTGAC | GCGAACTTGT | TGGATCTTCC | GGAAGAACAC | AAGGACGTAT | CCGCGCCCAA | 120 |
| | GGACGCGAAA | TCATAGGTCG | GCATCCACTT | TACATCACGG | ACGGAATCTG | AGCCTGAATT | 180 |
| | GAAATTCAGG | TCGCTGCGGT | TCACCTTGTA | AGAGTGCGAC | CGCAAGTCCC | ACACCTTGAT | 240 |
| | GCAGCCGTCC | TGGCCACCGC | TGATAAGGAG | ATGCGTCTGG | CCCATGTTGA | AGTCCACGCT | 300 |
| | GTTGATGGAA | CGCGAGTGCT | CCGACAGGGT | CCGTGATCAG | CGGCGAATCC | TTTGCCGACG | 360 |
| | CGCGGTTGAT | ATCGTAGATG | GAAACCGAGG | TCGACGTCCC | GCATATGGCG | ATGTAATTCT | 420 |
| | TGTGGTGGTG | GACCCCGGCC | CTTGACGTCC | CGAAATCCGT | GCTAATCTTG | CGCCATGTTT | 480 |
| 25 | CCGGCGCCAT | GCTGCTCGAA | GAACTTCGTC | CCCGCCCGCC | AAGGNTCCCC | NGTTGTTCNT | 540 |
| | GTTATTCCGT | GCACCCCTGCT | GCTCCCTGTA | CCCTCCGTCN | AAC TTGTTCA | GCCCCAATGG | 600 |
| | TCTTCCCCCN | CCCCCNCAAC | CATGCCCCCT | ANCTTCTTTG | ATTTTTTTCC | AACCC TGCCA | 660 |
| | CCCCCGGTTG | CCCTGGAGGG | GGGTACCCCC | CCCCAAAACC | CNCGCCCCCC | CAATTNTCCC | 720 |
| | ACGCCCNCCC | GAA TTTGGTT | TNCC TNNNGG | NCCCCCNNGG | GNCCNNAAAA | CCTCCCC TAA | 780 |
| 30 | AGNA | | | | | | |

1231RP

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|----|--------------|-------------|-------------|-------------|-------------|-------------|-----|
| | GATCATCTGC | GTGAAGGGCG | ACAGAAGCCT | GGCGATGGAA | ACATTGGAAT | TGATGCATTA | 60 |
| 35 | ACGCAAACAC | ATGGGTCATT | TCCTCAAACT | CAACAGAAAG | GGGACGAAGC | TGCGCACACA | 120 |
| | GTGCGTGCAA | ATCTTTAGCC | GAGTTCTGAA | AATTCAAAGT | CGGTAGTTCT | CGTATGTTGA | 180 |
| | AGCCAGATCC | ATAAACTATC | TTCTCACTCG | CCGGATGCAA | AGTATCAAGG | AATAGGCGAC | 240 |
| | AATCGGTAAT | GATTGGCTCG | AGCTCACGCA | GATATTGGCG | CAC TTCTGAT | ATCCGTGGGT | 300 |
| | TGTTGATGTC | ATGATGCACA | TGAATAAAAAG | GAAGAAGCTT | CGAAAGAGGT | ACACGGCCCCG | 360 |
| | GGTAGCCGTG | TGATGAGAGC | TGTTAGTTTCG | GCTTCAACAT | CAGCAAGTTT | CTCTATAGGG | 420 |
| 40 | GACGCAGGGT | CGTCAACATC | ATTTATTAGA | CAC TCCCAGC | ATTTGTTCTT | GAAAAAAAGT | 480 |
| | NGTGCA TGNA | CAATNGCNCC | CCCCCCTTTT | GAAANGCCGG | AGAAAA TTTC | CCTTNAANAC | 540 |
| | NAA TINTCTNG | GTNNAANTGC | TNNNAANCC | CCTTNAATT A | AACCC TTNNN | GCCNCAAAAA | 600 |
| | AAT TINTTTAA | ANCC TTTTNA | ACNCCCCGGG | AAACANAAAC | CCCCCCCCCA | AAAAAAAACA | 660 |
| | NGT TTTINTCC | NCCCCCCCCC | CCCCCGANNT | TTTNAAAACC | TTTNNAAAAT | CCCCCCCCCC | 720 |
| | CNAAAAANCC | CNCNAATTTT | TTTTTTAANC | C | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1231UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTCAAG | GTGCATCGAC | TTGGCATTGC | AAAGGGATGT | GATCCTTGAG | GGGAGGCTTG | 60 |
| | CAGCAGGCGC | GCTCCTTGTT | TCACATCATA | GGCTGTGAG | GCCGGACTGA | TTCAGCTCTC | 120 |
| 5 | AAGGCGAGCA | CCCTCCCAAC | GCCCAATAGG | GGCCCCCTCC | TGGGCTGTGC | ACGGGAATAC | 180 |
| | CTCAGACACT | GCGTTAAGAT | ATATGTATTT | AAGAGGGCAC | CAGCTGGCTA | TCAATTGCCC | 240 |
| | TCTCTGCTCT | TGTTCCAACA | CCAGGCAAGT | ATCATGATGT | CTGCTGCAGG | AAAAATGTTT | 300 |
| | AAGAACAACG | GCCAGAAGGA | TGAGCGGAAG | AATGCGGGCC | AGAGAGAGGA | GCGCCAGTAC | 360 |
| | AGGGTCGGCG | ATGAGCAGGG | CTTGGGCCCC | CAACAGCAGG | CTGACTTGGG | CGCCCCAGTA | 420 |
| | CCAGCAGGCG | CCACGCTCGC | AGCAGTTCTA | CGACACTTGG | NGCTTCCCNA | CATTTGGGCC | 480 |
| 10 | CCCCACCAAT | TGGGNCCCCA | GCAAAATNGG | CCCCNCNNCT | TTNATTTTNG | GGGCGAATGG | 540 |
| | GCCNAAACCT | ATCCCCAANT | TGNGGGNAAC | TCCCCCCCCA | GNANGAGAAC | NCATTTTTCG | 600 |
| | ATTGAAAAAC | NCACCTTNNN | TTTGNNAACG | CCCCCCCCNA | AAAGCCANGG | GAATGTNTTT | 660 |
| | TTTNGAAAAA | GNCCCCCTTT | NTGTCNCNNN | ANAAATTTT | CTANAATTTG | CGNGGATTC | 720 |
| | TCCCTTGGGG | CCATTCCNTT | TTTACCCTTT | TAAACCCCCC | CC | | |

1232RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTATTA | ATGAATTTTT | CCCCACGAAG | CTTGTGGAAT | TTTGATTCTA | TGCTTTGCAA | 60 |
| | GCACCTAACT | TGGGCTGTGG | TCATGCGAAA | CTAACACGCC | GCGAAACAGA | TACTGCCCAA | 120 |
| 20 | GCGTTAGCAC | TGCTCTTTTG | CGGTGCTACA | AACAAGTGTC | GAGCATTAGC | GTGTGACTTA | 180 |
| | TTTAGGGTTG | GAATATACAA | AAGTAAGGCG | TACATGCCGA | TATCTCTCTT | GTGTGCTCTT | 240 |
| | CTCTTACCTA | CATCTAGATG | TATTCAGGGA | ACTTCCCCCG | GAGATTTCAG | GCCAAGGCCG | 300 |
| | TCCAGCCCGT | AAAGTGTCTG | ACCCGTTGAC | CTTTCATCG | TTCTGGTTGT | ATTGTTCCGT | 360 |
| | AACAAAAACC | ACCTTTCCCC | AAANTCNAAT | AATTGNTTCA | ACAGGTTGTT | CCCCCATTTG | 420 |
| | AAAGGGATAN | NCGTTTAAAC | CCGNCNAAA | CAANNAANGG | GNNGNTTTTT | TTGGGCANAA | 480 |
| 25 | ACCCGCCCCC | NAATTNAACC | CGGTGGGGCC | CTNCNCAAAA | TTNTTTTTTT | CCCCCCTTGG | 540 |
| | GGNCCCCNCC | NAANAACCCC | CGNNGTTNNA | ATATATCCCN | CTTTTNCAG | AAGNGANTCC | 600 |
| | CCCNNAACCC | GNNGNGATNT | TTTGTGNTT | TAAAAANNCC | CCCCCCCCCC | CCNGGGAGGG | 660 |
| | NNTTCNCNC | CCCANCAATT | NNACCNAGGN | GAGTTTPTTT | TCCCTCCCGG | GGGAAAAAAC | 720 |
| | ANTGTTNNTT | TTNNNNCCNA | AAAAAA | | | | |

1232UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCAGTTTG | CCGTAATTGA | TACAAAAGGC | AACCTGGTGG | TGGGCGACGT | TGCGAGGAGT | 60 |
| | AAAAAGAAGT | CCCGGCGACT | GCGCTTGTTA | AGGAAGTTTA | GCGGGACTAT | TTTTGACCCA | 120 |
| 35 | GAGGAGTACT | CCAATTGGAA | TATGATAGAA | TGGTCACATA | TTCACACAAG | ATTGCTTGTTG | 180 |
| | ATGAATAGGT | CAACTTTCAT | GGAAATTGAC | TTTGTAGACG | GATGGCAGCA | GGAAATTTGTC | 240 |
| | CAAGCAAGA | CGTGGTCTAA | CTTGCAGCAT | TTTAAACGCC | TTTCCGATGA | GAGCAGTGTC | 300 |
| | CTACTCACCT | GCAAAAGAGT | TATATTCTTA | GACCACAAGC | AGCAGGGAAC | AAAGAGGGCG | 360 |
| | CTATCCTGGA | AACACAATTG | GGATAGCAAA | GATTCATCTC | TAAAGCTTGC | TATACACATT | 420 |
| | TCTGGCAGCC | ATATGAACA | ATATTTACAT | GCATTCTCTAT | TTCCACCATG | ACTCCCTGCA | 480 |
| 40 | GTGCTTATGT | GTCCTTCTTC | CCGGTCCGAA | AACACTTTCC | ATTTTTCAG | CCATCCCCCC | 540 |
| | GCTGNTTGT | TTTTNCCATT | TACACNCCNG | NTTTTACCGA | AATTACCTCC | CCCNTGTNCC | 600 |
| | NAGAAACCGA | GTTTANAGA | ACCACACCCC | CTTTCATTTT | CCTANNTGTG | CCCGCCCCCC | 660 |
| | CCAGGGCGAG | AGTTTTGGGN | CCCCCNTTTT | NTGNACCATN | TTNCCCCNCC | CCNCGAGGGT | 720 |
| | TCCCCACCNT | AAAANCCCTG | AAACCCCTTT | TCCCCCCAC | ATTTTNGGTN | GGGGATN | |

1233RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACAGTG | CTGTGGGCAT | TGCTGCTCGT | CGTGCTCTTG | TGCCCCCTCA | GCGCCGAAGT | 60 |
| | AGACAAGCTG | CCAGCAAGCA | CTGATTGGTA | CAGGAGCTTT | TTGTTACAGT | TCCTAAGCAG | 120 |
| | GTTCCGGGTC | GAGTCCGCGT | TGTTCAAAAC | AGCGCCCGGC | TGCACGCTCG | AGCTCGACTC | 180 |
| 50 | CCCGGCCGGC | GACGACGCCG | TGGAATACAC | CTCTGATCCC | GGGTCCGGAT | CCCTCGCTCT | 240 |
| | CGCAGTCCCC | CCGGAAGCAA | AAAATTCCCT | CACGGATGTA | TTCCCGTGGT | TGCCCAGCTG | 300 |
| | CGCACCGGGC | GTACCCGCGA | CGCTGTTGAC | ATTGGACGTC | ATATTCTCCA | TCAGCAGCTG | 360 |
| | CGAGCTGATG | CCCCCTCGGG | CGCTGTCTTT | GCTCGCATCT | GTAACGTCGT | CAGACCCCGA | 420 |
| | GTTTGTCTCT | GTCGTCCACG | AACGAGACGT | TCAACCATGT | GACGACGCGA | GCGCGTTTGG | 480 |
| | CCTTCAACAC | CNNATTTGGG | CCTTCTGCT | GGAAACNCAA | CCCCGGGAAT | TTCCCAACCT | 540 |
| 55 | NTGATTCCCN | AANTGCCCGG | CCNCCNTCCC | AAATTANAAT | CCCCAATTGN | GNTTGAAATN | 600 |

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|------------|------------|------------|------------|-------------|------------|-----|
| GNCNAAATNA | AACCCCNPTT | TCCCTNTN | CNNNCCNG | GCCCNAAANGA | GCCGNTGGGG | 660 |
| GNTTAAANNC | CCCNACCCCC | AAANTTATAC | CCTTTTTTTG | NNCCCNCCCC | CCNNCCCTNT | 720 |
| TTTTTNCCC | NTCN | | | | | |

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1233UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCAGCTT | CCATATAAGC | TCGTGTTTGC | GGTCGCGACC | TCTACAGAAG | TGGTGATATA | 60 |
| | TGATACTGTT | ACCACGAAAC | CCATTGTCAGT | GGTGGGAAAT | TTGCATTACA | CCCCGCTAAC | 120 |
| 5 | GGACCTCAGC | TGGTCTGACA | GCGGCCACCT | ACTCGTCGTG | TCATCAACAG | ACGGTTTCGTG | 180 |
| | CTCCTATATC | TCAATGGAGG | ACAGCCTATT | TGGCGAGCCA | TACAGTTCCG | AGGCACAGCG | 240 |
| | GACGGATTCT | CTCATACCTT | CGACTCCAAA | AAGCAACATC | TTCAGGAACA | CCCTGCGGTC | 300 |
| | CAACCCCGTC | AACGTAAAGC | GGAAGCACTC | TGTAGGCGGC | CACAACGACT | CACCCATAAA | 360 |
| | GCGCGCTGCC | AAAAAATGTC | GCCGCTTTCC | CCTGTGGTCG | TCGATGAGGG | ATCTGCGCCG | 420 |
| 10 | GCACACAACC | GCCTACTCCT | AGCAAAGATC | TCAAGCCTCC | GAAAGCGCAT | CCAACCCGTC | 480 |
| | CTTGTTTAAT | GACAACAACG | GCGGCACCTA | GTATCCCCNC | ACGCCATCCT | ANAAGTTTNG | 540 |
| | ATTCCNNTAT | ACTMAAATAC | AAACCCGANA | ANCNNTTTTC | TTGTTNACAA | ACTTTTPTTT | 600 |
| | GACCTGCATC | ACACTATCCC | GGNGNGGTCA | TTCTTGCCGA | ATGCCCCCTC | CCCCTTANAA | 660 |
| | CNCCCNATCN | TAAACCTTCC | CNCNTCCATA | TTTACTCATG | AATCNCNGCG | AANTCNCCTGC | 720 |
| | GGATCNCNCA | NCTTTTGGGT | AGTNTTCCCC | TTTTTGTTCC | C | | |

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1235RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCTTGAG | AAGCCAGATA | ACGACGAGGA | CGAGGAGCCC | AGTGACGATG | AGGATGCCGA | 60 |
| | CGACTACGAC | TCGGATTCTC | CCCGGCCCGG | CGACAGCGGC | AGCGAACTCA | GAGACCCCTCC | 120 |
| | TGCGCCGGCG | ACATTGCTA | CGGAAC TGCA | CGGATCCAGC | GTCTTGGCCT | CCCCGTTGAC | 180 |
| 50 | CTATTCCCTG | CGCTCCGTCA | TCGTCCACTA | TGGCACACAC | AACTACGGAC | ACTACATTGC | 240 |
| | CTTCCGCAAG | TTCCGTGGTG | TGTGGTGCGC | CATCAGCGAC | GAAACAGCGT | ACATCGTCTGA | 300 |
| | TGAAGCTGAG | GTCTTGTTCA | CACCGGGCGT | TTTCATGTTG | TTCTACGATA | TGACTATGAC | 360 |
| | GAGGCGACCG | GGCAGTTGCG | TGACGACTTG | GGCTGCCTAC | AGGAGCCGAG | TCCGTGCTGT | 420 |
| | CAGATGGGGA | CGGAAGAATA | CGACTCATTG | ACCGGGTCCA | CCAAGACCTC | GATTCAACGA | 480 |
| 55 | NCCAGCTGTT | GCTCCCGCCA | ATAAACTTTG | TTTGGGGCTG | GCCGGCCATA | TNTNCTCCAT | 540 |

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|--------------|-------------|------------|------------|------------|------------|-----|
| GCAATGTTTCAT | GCCCCCACC | GACATGTTTG | ATCCANATAC | TTTTTGTITN | GTTNCCCCCT | 600 |
| TTGAGNGNTT | CCCCCNAAGC | AAGATTCCTA | NNCTACTTGC | CTNGTTGTTC | CCNCTTGGTT | 660 |
| TGGNACCCCA | AAATTCCTINT | NNCCNTTTNT | GGCCCANCCC | NNGGNAAACC | CNCCCTTTTT | 720 |
| TTTCAAACCA | GGNTTNCCT | TTTNGCN | | | | |

1235UP

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|------------|-------------|------------|-------------|-------------|-------------|-----|
| GATCACACCC | GTGTTCTTTT | CAAAGGTGAC | CTGCAACTTC | TTGTTATTCA | AGATGATAGT | 60 |
| CTCACTGTCC | TTTGACACGC | TAGCAGGGTA | AAATACCGAC | TCCTGCGCGT | CAGCGTTTTC | 120 |
| TGCAGCCATG | TTATCCCAT | GCAAGGTGCC | TATTTGGGACC | AAACTTTCCC | CTCCTGTGTT | 180 |
| CAAGGCTCC | AAAGCTCTCT | CTATGAACCG | ATCTGCTAGC | TGCACGACCT | TGTTAAGCAT | 240 |
| TGGTATTGCT | TCATATTTGT | ATACCATTTT | TATACATGTC | CCGGGAAGGA | CATCGTGGAA | 300 |
| CTGGCATAAC | AAGATATCTT | CCCATAGAGC | GTTAATATCA | TTAACAGGGT | ACGTGTACTT | 360 |
| GTTAGGCGCT | AGTAGCGAAA | CCTTTGTGGC | AAATCCACTCC | AAATCATGGA | TCTTAAACCTC | 420 |
| AGATAGTCTC | ATCAACCGTT | TAACTGCTGC | CTGTGTCGTA | TACGTGCTTC | CTATGGAAAT | 480 |
| CAAAGTTACA | ATCCGCCCAT | CCAAGTTGGC | CAATGNGTTC | CCANTGCTCG | NCTTCNGCAT | 540 |
| AATATCACCG | TAAAAACCGT | TTANGGAATC | CCCNACCCCC | NACCTTNGGG | AANAACATTG | 600 |
| CATTCCCGGT | TAAAAATTGAA | CCGANACCCC | CCATTTGTTC | CACCNCCCCC | TGTTTGAACC | 660 |
| CCNCCCCCGN | CNCCGNACCC | NNAAAAANAA | CCGTTCGCNA | ANGTTTCATTN | AAAGTTTGT | 720 |
| TCCCCCGGG | TTTAAANCC | NAATTTTNAN | AAGCGTCTTT | TTTCCCGGGG | GGGTTG | |

1236RP

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|------------|-------------|------------|-------------|------------|------------|-----|
| GATCTCCCTC | CGGTGGAAGT | ACGTGCACTG | TTTGAGACTC | TGCAGGTGCT | CTTTTGATAG | 60 |
| CTTCGATGCC | TTAGCTCCCA | TGTCTACTAT | AACGCTGTCC | CGGGCCTCAG | CTATGTGCGG | 120 |
| GCTGCCTATC | TTACTGCCCTA | ACTCTTGGAA | GCGTGAGAGG | CCATAAGCCA | CGATCGGCGA | 180 |
| GCTGCTCAA | TTATGTCTCT | TGAAAGCGGT | GTGTGGGTCC | ACTTTCCCAG | ACCCAAGGCT | 240 |
| ATGCCGGTTA | CCTGACCTCC | GGTCCGGATG | TGACGCTGGG | AGGCGGTGCG | ATGCCGGCCC | 300 |
| TCATGGCTGT | CGGTGCGGAA | GGACTATCTA | CCAGGGACTT | GGCTGCTGCT | GCAATTTGCA | 360 |
| CTGCAAGTTG | CAGTGGAGGT | CTTGGCGAAG | CTCACCAGCA | GCGGCAGGCA | GTTACAGCCA | 420 |
| TGGCACAGG | CAAGCCCCCG | GAGTTGACCG | GAGTTGGTTG | CCAGATATTG | GGCCGTCCAA | 480 |
| ATCTTGANTA | GCCCTTTATA | TNAGANCCCC | NCCGTGGAAC | CCCAAGNTTT | TTTATGCGGA | 540 |
| TGGTTGGAAT | TCNGCCCCCT | GCGTTAACCC | CCCCCGAACC | CCTNCCCCCG | GCAAAANCAA | 600 |
| ATCCTNCCCC | NGTTTCNAAA | ANCCGAACNC | NNAAAAATTTT | AAAAGAGACA | AATCANNNCA | 660 |
| CCCGNGAAAA | AGAGCCCCTNT | CTTTTGAGAA | TTCCCGGGGG | GGGNGTAAA | TTNAACCTTT | 720 |
| GA | | | | | | |

1236UP

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|------------|-------------|------------|-------------|-------------|-------------|-----|
| GATCTTCGTC | CGCTTGCCTT | CAGGAAATTC | AAGCGGGATG | AGCTCTTGTT | TCAGTTTACC | 60 |
| ATAAAAGAGC | TGTTTTTACAA | GGTCGAATTG | CTCGCCCTCT | TCATCCAAGC | TGAGCGGGAC | 120 |
| GGACGCACTC | TCAATTTTGGT | AGAGGACGTT | CCCAATGCAT | TCCGTACACAT | CTTGCTGTCT | 180 |
| GCCAACTCTC | AATGTGTTTT | CTAGCTGGTC | GGAACTAATT | TTCCGAACAT | AGGTGGAAGT | 240 |
| TTCAGGGCCT | TCCGCTCTTG | GACTCCCGAC | CATGGTGATA | TCTTTACCTG | AGTCATCATT | 300 |
| CTCAACAGCC | TGCCTATCCT | CAAGCGGACC | TGCGCTGGTG | TTTTTACCCN | TTGGGNGGNN | 360 |
| GAANTCCAAT | ANNCCCCCTT | TCTGGGGTTC | TTGGAAAGNA | TTNGGANAAT | TTTNTTGGCCC | 420 |
| GGTTNTTACC | NTTTTNGANA | GAGACCCCTT | GNNTNTCNAN | ACCNAATNTN | TCCCNNGGGG | 480 |
| CNCCCGCNC | AATNTTTTTN | TNTCCAAANT | TTCCNAAANN | CCNCTTTTNT | GCTTTTCCCC | 540 |
| NTTTNGGNGG | NAGCGCCCCA | GGGGGNCCTC | CGAANTTAATC | NGGGGGNTGG | AAAAANAAAA | 600 |
| NAATTTCCCA | NAGGGGTNTT | TNTTTTTCCT | TCNGAGAAGG | GNGGTTANAA | AAACCCATT | 660 |
| TTTCCCCCN | NTAGANAACC | CCTTTTCNCN | CGGGGGNTCC | NGCCGGGGGG | ATTTNTGNGG | 720 |
| GNGCNTTGN | NACCTCCCTT | CCCCNCTATA | NAAATNCCCC | CGGGGGGGGG | TTTNTTTTTC | 780 |
| CCCNAAAA | | | | | | |

1238RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACGGCA | ATGAAAACT | ACGCAAACT | TACAGACTTT | GAGTGGTACA | TCGCCCTGCT | 60 |
| | TTCCGATCTC | TGCATAGTCT | CCCAGGACCT | GCAAGACAAG | ACCCCTCGCG | AGAAACTGGG | 120 |
| 5 | TGAGCAAATT | AGAAACATCA | TGGTGAAGGT | TCCTGACCTG | CGGGATCGCA | CTTTGGCGCA | 180 |
| | GATTGTGCAG | CTGGTGAAGA | GCGAGGACAT | CACGGCCCCG | CTGCCCGGTG | TTCTGAAGGA | 240 |
| | GTGCATCTGG | TGCCCTGGCG | AGTATTCGTC | GTTGCTCGAC | AATAAGGATG | AGTATATTCT | 300 |
| | GCTATTGGCA | GAAAAATCGA | AATTATATGA | GCCTGAACTA | CAGCAAACTT | TGATCCCTGC | 360 |
| | CATTTTGAAG | ATTTATAGCA | ATTGGTGTA | CGAGTCCGTG | GTCGACACGG | GTCCGTATTA | 420 |
| | AATGGGTAC | CGAGCGGATA | ATCACCCAC | TAGAAGATCT | AATAATCTCG | AAGAACTTCG | 480 |
| 10 | AAGTCCAGGA | GCGGTCTTCC | GAGGCTCTCG | AATTCTACCC | TTNTTTCTGG | ACNCCCCCTC | 540 |
| | CNAATNNTC | TGNATCCCTA | NCNGCTGGCA | NCTTACNAAT | TCCTNGCCCA | NTTCTNCAAC | 600 |
| | CCTTTGAATT | NACCNCNNIN | CCNTCGGGCC | CCCCAAAANC | TCNNNNNAAA | CTNTTNTTCN | 660 |
| | ATGGGAACCC | CCTTTNCCCN | AAANGAAGCC | ANANNNNACC | GNAAAAACNC | CTTGAAGNGA | 720 |
| | TTTCCCCGGA | TTTTGANAAC | ATTTCNNGCC | AATTTTCCGG | GACGGCCAAA | AAGGGTTTNN | 780 |
| | CAAATTANTT | CGGGGGGGGA | AGGGGAANGG | GGGGGNGNNA | | | |

15

1238UP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCAGAAAC | GGCCGGCTGC | AAGAATGGAT | GGCGATGAGC | TTGAGCAGT | TGAGGCATCG | 60 |
| | CTTATGCAAA | AAAAGAAATT | CCTCAGATCA | CGTGACAAAG | TTTCGTCAATC | TCTAAATGTC | 120 |
| 20 | GACGGTTGGG | CGAAATGTGC | CGTCCTCTGC | TATAAAATAT | AAACTAGTTT | CTCTACCACT | 180 |
| | AGACTGATTG | GGAAATATCTA | AGCTTTCACT | TGATAGCAGC | AGGAGCACTT | CATAATCCAG | 240 |
| | TACCTTCTTT | GGCTTATCCA | CACTAGTCAT | CTCATCGAAA | ATGTCACAGC | CAGTGCAGAG | 300 |
| | AGCCGCCGCT | CAATCCTTGA | TATCCAAATA | TGTCAATAAG | GAAACGCTAA | AATACATGCT | 360 |
| | TACAACGCAC | TTCTGGGGCC | CCGTATCGAA | CTTTGGTTAT | CCGATTGCTG | CGATTTATGA | 420 |
| | CTTGAAGAAG | GACCCGTAGT | TGATTTCCGG | CCCCATGACG | TTGGCGCTCG | TGGTATACTC | 480 |
| 25 | AGGTATTTTC | ATGCGTTACT | CGATGGCCGT | CACTCCCAAG | AACTACCTCT | TGTTTGGGTG | 540 |
| | CCCACTTTAT | AAACGAGTCC | CGCGCAACTC | GGACAGCGTT | CCCGCTGGCT | CAAGTTTCAA | 600 |
| | TTACTTCGGC | GAGAGCCCTG | CTGTCAAGGC | ACCCGAGAGA | CCCGCATAGG | TGCGTTTGCG | 660 |
| | TCCGCACACG | TTGCATTACA | GCGTCGACCA | CTACATAGAA | TATTATTAAG | CCGACTATCC | 720 |
| | TACACGTTTC | TAGAGCTAGT | CGAGATGCCT | TTGGCTGATA | CTGCTGCGTT | GGGCCAGGCC | 780 |
| 30 | GTATCTTGCT | CCTCCTGGCT | TTGCTGCGTT | GCGCAGCTCC | CANTTGNCCT | TTNCGATNN | 840 |
| | TCCTGTGTCC | CGTATCCATT | GNCTAAATGT | CTCCC | | | |

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1240RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTAAAA | TAAGATAGAA | TGGTAATAAA | TATCATTCAG | GTACAATAGA | TGCTGGTGT | 60 |
| | ACTAAAGGAT | TACCTGGAAT | ATAATTATCA | GGATGTCCTA | AAGTATTAGG | TGAAAAGAA | 120 |
| 5 | ACAAATAATG | AAAAGAAAAT | TATAAATACA | AATACTGTTA | CTAAATCTTT | AAAAATAAAA | 180 |
| | TAACCATGCA | TTGGTAATCT | ATCTAAATTA | CCTGTAATAC | CTAATGGATT | TGATGAACCA | 240 |
| | TGTACATGTA | ATAGCATTAA | ATGCATAATT | ACTATTGCTG | CAATAATAAA | TGGTACTAAA | 300 |
| | TAATGAAATA | GAAAAGAACT | TATAATAGTA | GGATTACTAA | CACTAAATGA | TCCTCATAAT | 360 |
| | CATAGTACAA | TATCATTTCC | AATAAATGGA | ATAGCACTAA | ATAAATTAGT | AATAACAGTA | 420 |
| | GCACCTCAAT | GTGACATTTG | TCCATATACT | AAACAATAAC | CTAAGAAAGC | TGCTGCTATA | 480 |
| 10 | GTTAAAAATA | AGATAATAAC | ACCAACTGTT | CCATACAATA | ACTCTAGGTG | ATTTATAAGA | 540 |
| | ACCAATATAT | AAACCTTTAC | CAATATGAAT | ATACATACAA | ATAAAGAAGA | ATGAAGCACC | 600 |
| | ATTAAAGATG | CATATATCTA | ATTATCCACC | TATTGTACTC | TCTCANAATA | GTTCCTACCT | 660 |
| | GATGANAAGC | TATCCATATT | ANAAGAATAT | GCATACCTTA | AAAATACCGT | TANAATTGAA | 720 |
| | TACTAACATA | ACCTATAANA | CCNAATTCAC | CATAATAATG | AGAGGGTGAG | GNGAACCAT | 780 |
| | CNTACNATAC | TAATTTAATT | ATTGATTTCT | TTCCCNTTTT | ATTATTAAAT | TTTAAT | |

1240UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAGAA | TATTAAGTCA | ACTATTAACT | AATATCTATA | ATAATAATGG | TTTATCATT | 60 |
| | AAATCATTAA | AGATAATTAT | TAATAAATTA | CCATTTAATA | ATGATATATT | ATTATCAAAA | 120 |
| 20 | AATTATGTTA | ATAAAAATAA | TAAATATAAT | TTACTAATTA | ATAATAATTT | AAATAATAAT | 180 |
| | AAAAAAGATT | TAATTAATTT | ATATACTTTA | GATAATAAAT | TATTAGATTT | AAGTATTCCT | 240 |
| | AATAATATAT | TATTAGGTAA | ATATTTAGTA | GGTAGTAATA | TCCAATTAAA | GGGTAGACTA | 300 |
| | TTAAATAGAA | ATATTACTAG | ACTAATAAAA | ATAAATATTA | TGAAAGGTAC | ATTTAATAAT | 360 |
| | TATATATATC | AATGAAGTAA | ATTAAATAAT | TTATATAAAT | TAAATTATAT | ATCACTTAAT | 420 |
| | ATTAATAAAC | TTAATAATCT | ATTTATTAAT | AAAAATGGTA | TATTTAATAT | TAAAAATAAA | 480 |
| 25 | TTAAATACTA | TTTAATAAAT | ATCTATAAGT | AATTTCTTAT | TTATTTTATA | ACATTTTAAA | 540 |
| | ATGTTTTATG | TTTAAATAGA | TAATAACAAT | TAAATAATAA | AAATTAAAGT | GCCACAAATA | 600 |
| | TTCCCATTTT | CCTTTATGAA | TCAATTACTT | ATGGTTTCCT | ATTTATTTTA | CTATTTTATC | 660 |
| | CTTCTATCTT | ATGNTTTTTA | CCTAAGAATT | TAANAATATA | TACTCCTAAA | TATATATTCC | 720 |
| | NAAATATATA | TAGTTATTAA | ATTTTAATTA | ATCCANTATG | ATCCNTATTT | ATAAATATAT | 780 |
| 30 | AAGAANATTT | TAATATATAT | ATATGAATNT | TATATCNCCN | TGAACCATTC | NAATNNATTA | 840 |
| | TAGTTTACAC | CCCCANATC | | | | | |

1241RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCTAAATA | TATATAATTT | AATTTATAAA | GATTAATATA | AACTTTTTTA | TTATAATATT | 60 |
| | TAAGTATTAA | ATTATTTAAA | CTATTATTAT | CATTATTTAA | TAAATTAATT | ATTTGATTAT | 120 |
| | TAATACTTAT | TATATAATTA | TTATATAATT | TACTTAATTC | ATCATTATTA | ATATTTATAT | 180 |
| | AATTATAAAA | ATAATATTTA | ATATGAATAC | TATTTAGTCT | ATGTTCAAAT | TTAAATTAG | 240 |
| | TTATTAAAAAT | ATTATTAGAT | ATTATTATTT | TCTTTAATAA | ATTATTAAAT | AGATTATCAA | 300 |
| | TAATTAATAT | ATTATTTATT | AATTGTTTAT | TAAAATAATA | TATTTTATTA | TTATAAAGAT | 360 |

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | TTAATTTATT | TAAATATTGT | AAATTATTAT | TTTTATTATA | ATATCTATTT | TTATAAATAT | 420 |
| | TATGTTGATT | TATATTATTT | AATCTTTTTA | TAAGAATTAT | TATTAAAATT | AATTTTAACT | 480 |
| | TTAATTTCTT | ATTATTAATT | TTTATATTAT | TTAATAAATT | ATATTTCAAT | TTATTTATTT | 540 |
| | ATTTATTTAA | TTAAATTAAT | TATTTAATTA | ATATTTTATC | ATTATTTAAT | TAATTAATAA | 600 |
| 45 | AATATTATAA | AGAATGTAGT | TAAAAATACT | TATAAAAGGA | TCCGAACCTA | TATTATTGTT | 660 |
| | TATGAGACAA | ATGCTTTAGC | CCATAAGCTA | TATAGTTTGA | CTATCATTTG | AGANTTGGGT | 720 |
| | NCNCCCCCTA | TGCTNNCATC | CTGNTGTCCC | CNCTAAANGA | ATTTNTTTNT | TNANANATGA | 780 |
| | AAAAATTTATT | TATCAAAGAA | TTATAATTTT | TTAANAAGGG | GNANAAGGAA | AGACCCG | |

1241UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGTATA | CTAGAGCTTA | TTTTACTTCA | GCTACTATAA | TTATCTTAT | TCCTACTAGT | 60 |
| | ATTAAAGTAT | TTAGTTGATT | ACTAACTATT | TATGGTGGTT | CATTAAGATT | ACTAACACCA | 120 |
| 5 | ATATTATATC | TATTATCATT | TTTATTTTTA | TTTACTGTAG | GTGGTTTAAC | TGGTGTAGTA | 180 |
| | TTAGCTAATC | TATCATTAGA | TGTAGCATT | CATGATACTT | ATTATGTAGT | ACTACATTTC | 240 |
| | CATTATGTAT | TAAGTTTAGG | TGCTGTATT | TCTATGTTTG | CTGGTTATTA | TTATTGAAGT | 300 |
| | CCTCTTGTTT | TAGGTTTAAA | TTATAATGAA | AAATTATCAC | AAATTCAATT | CTGATTAATT | 360 |
| | TTCTTAGGTC | TTAATATTAT | TTTCTTCCCT | ATGCATTTCT | TAGGTATTAA | TGGTATACCA | 420 |
| | AGAAGAATTC | CTGATTATCC | TGATCTATT | CTAGGTTGAA | ATTTAGTATC | TTTATTGGT | 480 |
| 10 | TCTATAATAA | CTATTATATC | ATTAATGTTA | TTCTTTTATA | TTATTTATGA | TCAATTAATA | 540 |
| | AATGGTTTAA | CTAATAAAGT | TAATAATAAA | TCTATTAAAT | ATATAAACT | ACCTTGATTT | 600 |
| | TATTGAATCA | AATAATATTT | TCTTAATGAA | TACTACTAAA | TCACATCTAT | GATTTATATG | 660 |
| | AATCACCAC | CTTAATCNAT | CAATTAAACC | CTCTAATCCA | ACTTTAAATA | NNCTTAATTA | 720 |
| | TAAATTANNA | ATAAAATTTAG | TGGAANAATT | AATNGTAANC | AATNTTTTNA | NGGANTTTAT | 780 |
| | CTCNNTCCAA | CCGAAACTAC | TTTTATCCTT | AANNAAAACC | TTTAATNAAT | GGACCNCANA | 840 |
| 15 | NTCNNAACNN | GTTTTC | | | | | |

1242RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCACGTGC | TAAATGTCCG | GGTACATTAG | TGCACCCGTA | CACCGCATTA | CGACATTACG | 60 |
| 20 | ACGCTTCTTG | ACTAACCAGG | TTATCACGTG | TATATAGTTA | CATACGAACG | TCTGGTACAA | 120 |
| | GGAAAGAGCCG | GCCGGAAGTC | CACCTCACCC | TTAAATTGCC | ACATTTTCATG | AGCATTTACA | 180 |
| | ACAGAAGCAC | AGCTGTAAAC | GTTTCTCGAA | CTCGTGAAGT | TTCATATTGT | TCCTTAAGGG | 240 |
| | CCCTTGATGT | TGCAGTTCAA | GCTAGTTCTG | TTGGGAGACT | CGTCGGTCGG | TAAGTCGTCA | 300 |
| | ATTGTTTCATC | GCTTCGTGAA | GGATTTCGTT | GATGAGTTCC | GGGAAAGCAC | AATCCGCCCC | 360 |
| 25 | GCATTTCTGT | CCCGTACCAT | CAAGCTGGCG | GACCACGACG | ACGCAATGAT | CAATTTGAGA | 420 |
| | TCGTGGACAC | CGCGGGACAG | GAGCGGTACA | AATCGCTGGC | TCCGATGTAT | TACAGGAATG | 480 |
| | CGAACGCCGC | GTTGGTGGTG | TTATGACGTT | GACACAGGAG | GATTCTCTAG | CAAAGGCACA | 540 |
| | GAGCTGGGTT | GAACGAATTA | AGAGCAGGTT | GGTGACGAGA | ATTCTGGTAT | CTTCCCTGTT | 600 |
| | GGGCATAAAT | GATTNGGGGA | NGAGGANCGG | AACCNAGGTG | ATTGACNCGA | GAACNCAGGC | 660 |
| | TCCCCAAACC | CNCGGTGANT | TCCCCNAGGT | TTNNNCCAAA | CCGGCCCGTT | NCCGGATTTN | 720 |
| 30 | TTCCNCGGAT | TGGGGGAANN | CTAAACNCG | GCNATTCNT | NGGGGCCCCC | CCGNTCCCC | 780 |
| | ANTTTCNTT | CAAGNCCCC | CAAAGAACAC | CCTGGGGNTT | ACCCCCCCCC | N | |

1242UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCTTGTCG | ATTGTGAAGG | AGGAGACGAA | AAACGCTACC | ATCAGTGTTG | CCGTCGAGAA | 60 |
| | CAAGCAGCTC | ATCCCATTTA | TTTCGCTGGC | GGACGTGGAG | ATTTCCGAGG | ACGTGACTGT | 120 |
| | GAAGGCCCTC | CCTAACGGCT | CTGAGAAGAT | CGTTCTTATG | GGGCCACCGG | ATGAAGCGAA | 180 |
| | GGAAAGCAAAG | GTGAATGTTT | AGAATTACTT | GAACACTTTA | GCAAGCAAGG | TATCTGAGAA | 240 |
| | AAAGATTTTC | ATTCTTCGCA | AGTTCCAGCT | TCTGATCGAT | GCAGAGGATG | TCAGGGAGAA | 300 |
| | ATACAAGGTC | TCCGTTATCT | TCCCAACCGC | CCTTGGTGAT | GATACTGTGT | CGTTCTACGG | 360 |
| 40 | ACTGTCCGCT | AATCTTGATG | ACGCGATCGC | ATATGCTCGC | CAGTCGTCTA | AGCAGTACAT | 420 |
| | GGTAGAATCT | TTGGAGGTAT | CCAAGGCTCA | CGGAAAGAAT | GTCCGTCATG | CAAAGAATTT | 480 |
| | AATGTTCTAC | TTCCGCCAGT | ACGAACCTCT | CCAAGGATAT | TAAGGAATTC | GTTCCAAGGG | 540 |
| | ANTTGAANTT | TTGTNCTACC | CACCTCCGGA | GGGATTTGCC | CGNTTTAAAN | AAGNTTTTNA | 600 |
| | ATNCACANTT | TTTCCAAAGG | GNGAATTTTG | GGGNACAAAA | AAAANTGTNT | TCCCCGNCNA | 660 |
| | TNCCTTATTT | NTTAACNACC | CCCCCTCCCC | NGTTTCCNCC | GNTGAANACC | NAANTATNAC | 720 |
| 45 | CCTTTCCCCC | AGNGATTTAC | CNGGGCCNTN | CAGGGGANTC | CNCTTTTNTN | CTCCGGANTC | 780 |
| | AANAAAGGGA | AANACCNGNN | GCTTTTGCCA | GGNTGANAAA | AAATCCNCCC | CCCCCAGAGG | 840 |
| | TAAGANCCNN | GNAAGGNGNG | CCCNTTTGGA | GAATNCCC | | | |

1243RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCGCTAAT | CCCGAGGTTT | GTTTTGAAGT | CTGTGATCAG | TTGGTTCTCC | ACATCTTTGA | 60 |
| | GAATTTCTAAT | AGCCTCCGAT | GGCAGTTTCT | CCAATTCCAT | TCCGACCTGG | GCAGACTGTA | 120 |
| | TCTTTAGAGA | GTAATTTTCC | ACACACAAAG | AGTCAATCTT | GTCTTGAACA | TCGTCAATCA | 180 |
| | TATACTTCAG | TACATCGGTC | ATGTTTGTTA | GATTCAGTGA | GCTTTTGAGT | GCGCTTTTTC | 240 |
| 55 | CTAGCGCCGA | AAGGTTCCCC | GCTTCATTCC | ATGAGAAGCC | TAGAAGTGAC | ATCATGGCGT | 300 |

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GGCAGCATGT | CTTCCGCAAC | TGTGACAACC | AATAATTCAA | GACTGCGGGG | CCTAGATAAC | 360 |
| | AGGGCCCCTG | CCCGTCTGAG | TCATAGCCTG | AAGCCTCCAA | GAAGGATTC | CATAGGTTAA | 420 |
| | CATAATTATC | ACGCTCTATC | GGTGAGAATT | GAAGTTGGAT | TAAGTAATGA | TGCTGCTTTG | 480 |
| 5 | GGATTTTAAT | CTGATATTCT | ACATCATTCT | TTGTATGACG | GATACAAAGG | TTGAAACGTG | 540 |
| | GGATGATATC | AAGAAGTTCT | CTTGCGGTGA | AAGTCACACC | GTTGACACGT | TGGAGCTTTG | 600 |
| | CGAATTTGTT | GCGGGATCTA | GATGCATCCG | ATTGTTGCC | AGTTCCCTGG | TATTCTGGCA | 660 |
| | GACTGTGTTT | GATATACTTT | GGAGATCCCT | TGAAGGGATG | CACTGCCATT | AGAAATACAC | 720 |
| | CTTGAATCCN | CTAGTGAATG | ATAGGTNTAC | CCGAACCCCC | ANTTTTGATA | CCCNGCAGAG | 780 |
| 10 | TTTGTNCATC | GGCCCCTTCT | NCTTCCTGCC | CACATTGCCT | CCCNATTTTA | TCCTGAAATG | 840 |
| | CTTA | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1243UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTCGTCC | CACCACGGGC | GCAGGAACGT | GTACTGGCCT | TTTGAGATCA | ACTCTGTCAG | 60 |
| | GACGTGCGATC | TTTTCGTCTG | AAAAAGGCGG | GAAGCCGCAC | AACACGGTGT | ATAGGACGCA | 120 |
| 5 | GCCGATCCCC | CACATGTGGA | CCTTCATGGA | GTAGCGTTGG | TCCTTCACCA | CCTCGGGCGC | 180 |
| | GGTGTACCCG | ACAGTCCCGC | ACGGCGTCTG | GGTGTGGTA | GCATAAATTT | GCTTCGAGAG | 240 |
| | TCCGAAGTCT | GCGAGCTTTA | TCACACCGAT | CCCGCCGCC | CCGATGCCAG | GTCGGAACAG | 300 |
| | GCCCTCGTCT | TGTTTTGTCT | TTGGGTCTGC | CGACTGTCTC | AGCTGCTGGC | GCTTGCTGGG | 360 |
| | TATAAAATCA | ATTGGGGAGA | ACAGCAAGTT | TTCTGGCTTG | ATATCCCGGT | GGACAATGCC | 420 |
| | AAGCGAGTGC | ATGTGTTTTA | CCGCGAGTGC | CAGCTGCCGT | ATTACATGTC | TAGAAAGGTC | 480 |
| 10 | CTCCGAAAAA | TAAGTGAGTC | GCACGATTTT | TCCAAAAATC | TCCCCC CGG | GCAAGCAGCT | 540 |
| | CCTGGACTAT | GAAGTAGTAT | GACTCGGTCT | CCCTGGAAGT | CGATAAACGT | CACAATGTTT | 600 |
| | TCGCCCGAGG | ACACCGCCTT | GTGGATGGTG | ATCTCCTTCA | GAACTGCTCT | CGCGATGTCT | 660 |
| | CTGTTTTCGC | CGGCTCCNCC | CNCTTNTNMC | GGGCCCCCCC | NCGTGCCCCC | ATCGTTAANA | 720 |
| | GGNNCCTTT | GCTGATCNCC | TTGACGGCNC | CGTTTNTTAC | NGNCNAAGTN | CCCTTTCCGGN | 780 |
| | CGNCCTTTCA | CGGNCNCCG | ANNCCNCCG | AAACCCCNCC | CNATTTNCCC | NAACTTNTCC | 840 |
| 15 | CNCAANCCAA | GNNCCGAANC | CCCCC | | | | |

1244RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCCTGCCT | TATCACGAGC | GCCATCCGAA | CTTCCCCCGG | GATGTCGTTG | AGAGGTAGCG | 60 |
| 20 | AGCTCACCCT | CACAACTTCC | TCATCTGAAT | CGTCTTCGTA | TGTACTATCT | AGCTCTTCAG | 120 |
| | CGTCGCGCGA | TGCAGATTCC | GCCCTGTCTT | TCACCTGTTT | CAGCACCGCC | TGTGCGTTAA | 180 |
| | GCCTCAGAGAG | GCAGGCATGT | GTCGCACCCC | CGTATATCTG | GCCCAGGTAA | TACCCCGTGG | 240 |
| | CCAGCGAAGC | CATCGTAACG | CTCAGTATGA | ACGGTAAGTT | GATACCTGCC | ATCCTAGTTT | 300 |
| | CTGTTTGGTA | TTCTGTCATG | TGAGTGCCTA | AGCCAAGTTG | GTGAAAAATT | CCTTCAAGCT | 360 |
| 25 | GACAATCGCT | GGTCTTGGCG | GCAGTTCAAC | ACAGCAAAAC | TCAGAGAGAG | GTATAAACGC | 420 |
| | CATATAATAG | AGGAGACTAC | TCTATTCACT | GCCTATCTTT | TCAGCCACCA | GTTCTCTCTG | 480 |
| | CTGCAGAAAT | TGTGTGTGAT | TCOGCCAGCA | TTTTGTTCAT | CGTCTCGACA | TATTCGTCCG | 540 |
| | TTATGATTCC | GAATCCGTGG | AACATTCCGC | CGCCAGCCTG | TTAGATTAGG | CCACACCGCC | 600 |
| | CTTGTTAGAC | CATAGTGGCG | GAGTGCAGAT | ACAGGTTATC | CNTCGAACAC | CATCCGTAGA | 660 |
| | ACCACTGGCT | ACNCTCCGGN | GTTAAACCCC | TACGCTNCCC | TTCCACTNTC | CGATAGTCCA | 720 |
| | TACGCGGAAT | TTGGGGGGCC | AAAAAAGTGC | CCNGCAGGAA | CNCAAAACGAA | GNNTCAACGC | 780 |
| 30 | CNTGTNTTGG | GCNGGTGCCN | TTTCCNCAAA | NCAGTGCCTA | NTTNTAANCC | NGCCNCTTAT | 840 |
| | TNTCCCCCAT | T | | | | | |

1244UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCAATCTG | ACAGTTGGAT | TGATAACCAG | TGCTATCTCC | TTATCAGCCT | TTACAGTGAC | 60 |
| 35 | GAAGGAGGGA | TTGGATTGGG | GAATGGAGAA | TAAAGATATT | TTTGATCCAT | CACCAGAAGG | 120 |
| | ATTTGATCCC | TCTTTCAGTG | AGCATGCCCA | ACTTTTACTC | TCGGAACGTA | TAATGGGAAA | 180 |
| | CTTCTCTCGT | CCAAAGTCTG | GCATCTGGAA | TTATGCATTT | ATGGGTGCTG | GATTTAACAG | 240 |
| | AGAGCTACGT | TACGAGCTAT | CTCTCGACAT | ACCACTCGGA | TTTTATGATG | AACAGCACCG | 300 |
| 40 | TGCAACGCAT | TTCTTACAAT | TCAACGAAGT | GGCAGCTGAC | GATACTTTGG | AAGCAGAAAC | 360 |
| | GGAAGATTTA | TTCTCCTAAG | TACATATTAA | GGATAGAGCC | AAACTTGCAA | CTAGCTTCAG | 420 |
| | TTGCGTATGA | ATCCCATATA | TGTATATATC | AATACACGGG | CCACTCATGG | CTGGTGACCC | 480 |
| | ATTTAAGCAA | ATACCATATT | TTTAAATGTT | GCGGTGATTT | TATAATCTCG | ATATCATGAT | 540 |
| | TTTATTTATA | GGAGATGACT | TTTCCCTCTA | CAACGCCACA | TTATAGAAGA | CCGTCAATGC | 600 |
| | AGCACCCAGG | CTGAAGCCAG | AACGGAAATG | TTGGAACCAG | AACAGGCAGG | TTTGAATAGC | 660 |
| 45 | TCGACATATG | AACCTCCCCA | GAACATGTTT | TTTTTGAACA | TCNAATGANT | TTCTGCCAAA | 720 |
| | AACANGAAAA | TGGACNCCNN | GCATCATTTA | AAAAAAACCN | TCCTTGAAAC | TGACAAAAAA | 780 |
| | TATGCACCCN | GATTTTTTGA | TCACGGANNG | TTTTCTTTTAC | NCCAATTAAG | TAGGNCCCCC | 840 |
| | NGAGATTTTT | ACACCCNCC | | | | | |

1245RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCAAAAAAC | AGAGTACCCCT | CCGCACGAAC | TTCCCATATG | AGGCCCAGAG | AGAACAACAT | 60 |
| | CGCCGATCAC | CTATATCAAC | AACGGAGACC | TTGGTCTGCC | GAGAACGTCA | CAGCTTATCT | 120 |
| | TATTATCGAT | CGAATGGATG | TTGGAAAGAA | GATACAAAAT | AACGCATAAT | TGCTGAATAT | 180 |
| 55 | ATTGCACGCT | TCTAACGCAA | ACGACGAGCC | TCACGCTCAG | ATTCCATCAA | GACCAAGATG | 240 |

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | TCGTTCTCTC | TAACTGGGCC | CTTGACGTTT | CTGACAATGG | TTCTGGAAGT | GTCGTCCAAG | 300 |
| | AACCTCAACGC | GGACCTGGGT | GACACCACCA | CGAGAACCGG | TTCTACCTAG | AACCTTGATA | 360 |
| | ACCTTAGCTA | GAGTGACTGG | GGTCTTGGAG | TCCATTTTGA | TCTATTGCTT | CTTGGATATA | 420 |
| 5 | AAATATCTAG | TAAAAAGTGC | TGAATAGGTG | AGAGGAAGAT | ATCATGAACA | GGCGGTTTTT | 480 |
| | TTTGATGCCC | CGAAAAAATT | TTCAGGTCTG | CGATGCCCAT | CGCAGGTGAA | ATGTGCTTGG | 540 |
| | GTTCTTGAAA | AATCACATCA | TACGATAACT | ATCCGTGCAC | CCAAAGGCCT | TGGCAGCAGC | 600 |
| | GAAGTGCGCG | AAGGTTAGCC | AGCCCAGAAC | GAAACCTGAG | AACAGGTTAA | GCTCAGGTGA | 660 |
| | ATTGTTTGCT | TCTATTGCCT | TACAGTTCAT | CTTCCGGTAA | TTGCAGTATC | CGTTGATGCC | 720 |
| | CCNCAGCTGA | CCAGCCGTIN | ATTCCCGTTT | GAACTTTCAG | AGNTCNTGAA | ACCCTNGTNT | 780 |
| 10 | TTTCAACCCN | TGACACNTAT | ATCNCCCCCT | TATATGACTT | CCGTCNATNC | CCG | |

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1245UP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCGGGTA | ATACAAAGCC | TCGGACCCCT | CGGCGGCTAA | CGAGAAAATC | GCGCTAAGCT | 60 |
| | TCCAGCCTAA | TCATAATAAA | AGGGGCATTG | GTGGAAGCTT | TCTGGTACTT | ACGCGAGTAA | 120 |
| 5 | ACAAAAGGCG | CAAGGACGTT | TCAGAAGAAG | CCAGAAGCAG | CAATGAGCGA | GATCAACTCG | 180 |
| | ATCATTCACA | GAGTGAATGT | ACTGGTCTCA | AAACTGCCCA | AAGAGAAGGA | TGCAGGCCCTG | 240 |
| | GAGAAAGAGT | GCGCGCTGAT | CAAGTTCGGC | GGCATGGTAT | CTAACCAGCA | ATCGGCGCTG | 300 |
| | TTGTTTGGAG | AACTGGCGCA | GCAGATGGAT | CGCACAGCGG | TGCTACGGCA | GCCATGGATT | 360 |
| | GTGAGTTTGG | TTGTGCGCTT | GGGCAACGAG | CTATGCCGGC | GTGGCGAGGT | GGGCGGAGGC | 420 |
| | TTCTGGGGCA | AGATATTGGT | TCGTTGGAT | GGACAGACCC | CGTTATTGAC | AGTTACTAAC | 480 |
| 10 | AAGAATCCAG | GGTGCGAAGT | TTTCGCGTAA | TGTTGCGGTC | CATGGCCGGT | TGGTGGAGGC | 540 |
| | GCTGCTGGAC | GGCGCCTTGT | CGCGTACGGC | TCCCTGTGCG | TGGCAGAATA | TGGCGTTGTT | 600 |
| | GCTCCAGCTG | TCCTATNNAC | CNNCGGATT | NTCCGGAAGT | TGNTGNCCCC | CCTTTACCCC | 660 |
| | CCCCCTNNCN | AGNATGGTTG | GNGACCNNTT | GNNCGNTTNC | CAACTTCCTT | NTNCCCNCT | 720 |
| | TTTTTTGNAC | NTTGAANCNA | TTTTTCCCCC | TTNAANTCAA | CCNACCNGTT | NTNNCAACCC | 780 |
| | CCCCCCCCTT | TGGGAAAAAN | AGNAAAAAAN | ACCTTTTCCA | CCCNCGGATNC | CCTTTGGNCA | 840 |
| 15 | NCTGGAACNG | NNNTNTTTCNC | CCTC | | | | |

1246RP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCAACAAT | GATTGTGGCG | ACGGGCGGCG | GGGCGTTCAA | ATTCTACGAC | GTGCTGCTGT | 60 |
| | CGGAATTTCC | GGGCGTGTCA | GATATCCTCC | GGCTGGACGA | GATGGACTGC | CTGACGAAGG | 120 |
| 20 | GGTTGGACTT | CTTCATCCAC | AAGGTGCCCT | ACGAGGTGTT | CACATACAAC | GACCTGGACG | 180 |
| | CGCAAGGCAC | GGTGGATGCG | GTGGCGGATG | ATGAGATGTA | CCCCGTACATG | CTAGTGAACA | 240 |
| | TAGGATCCGG | GGTCTCGATT | CTGAAGGTGG | AGTCCGCCAA | CGAGTGCATG | CGTGTGGGCG | 300 |
| | GCTCGTCAAT | GGGCGGCGGC | ACGTTGTGGG | GACTACTGTC | GCTAATTACT | GGGGCGAAGA | 360 |
| 25 | CGTACGACGA | GATGCTGGCC | TGGGCAAAAC | AGGGCAATAA | CGCGAACGTG | GACATGTTGG | 420 |
| | TAGGCGACAT | ATACGGCACC | GACTATGCGA | AGATCGGCCT | GAAATCCAGT | AAATATTGCAT | 480 |
| | CGTCGTTCCG | GAAGGTCTTC | CAACGGGAGA | CGCTCACCCG | GCCCCTCGGC | GGGCTGACT | 540 |
| | TCGGCGTCTG | CGACCTCGAC | GTGTGAGATC | CGAGATTGCA | AATGAGAAAT | CCNNCACGCC | 600 |
| | GAATNTTCCC | ATCCCTCNTG | TACCCATCTC | CAACAAATCG | GCCAAATGCT | TNCTGCAGCC | 660 |
| | AAATCCCCAA | TCCAAAAAAA | NNTCTTTGCG | GTCTTTATNT | CCCCGCTTTT | TACCCCTGTA | 720 |
| 30 | CCCTTTACCC | CCCCCTAACT | CNGGTCNAAN | GNTTTTAACA | NCCCNCCCCC | TNAGGNTTAA | 780 |
| | GGTNNNTGGCC | CCNNGGCCCT | TNTTGCCCCA | AAAATTTCCC | NNCGNTTCTN | | |

1246UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGTAGAG | CGTGAGACGG | CACCGGCGGA | GGCGCCAGCG | CCGGACGGTG | TGCAGCCACG | 60 |
| | GGGGTTTCCT | GAGCTGTACC | GCCCCGCGAGC | GATATCTAGC | TGGCGCCAAC | GGCTGCAGAA | 120 |
| | GAAGAATGGG | CAGCGCAGGC | CGCCCGCGGC | GGCCCTCGCC | GCAAGCGAGG | CGGAGAAGAT | 180 |
| | CCACAAGGAA | AACATGGCGT | ACATCGAGGG | GCTGTCCGAG | GAGCAGCGGA | CGGCAGAGCG | 240 |
| | CCGCGAGCTG | TTAGAGAGCC | TGGACCCCAA | GGTCGTGCAG | GCGTTGTACC | GTCGGTTGGA | 300 |
| | TGCACGTGCA | GCAGCGGACG | GAACGGCGCC | CTTAGTGGCG | GAACTCGAGG | GAGCGGCAGG | 360 |
| 40 | CACGTGGGTG | GGCGGCACCC | GCGAGGAGCC | GATGATGCCG | CGCCTGGATG | ACGCGACCGT | 420 |
| | CGACGCCGCG | CTAGGCGCGC | CACAGGCTTC | GATGCCAGAG | GCCGCGCCCA | CGTACGACCT | 480 |
| | GCCAGCGCCG | CTGGAGGATG | CGGACGACAT | CGCGCCCCAG | GAATACCAGT | TCATCAGCAG | 540 |
| | ATGGACCATA | TGAAGGACAG | GACTTGCTAC | GAGATATCCA | CTTCTCCGCG | AATGAGACTG | 600 |
| | TGGCGCCAG | ACTGGACATC | AACGACCCCA | ACTTTATGAG | CAGCTGCACG | AGAATACTTC | 660 |
| | CGGATNTTCC | GAAAGAAANA | AATAACTNGA | ATGGATGAAG | GCCACTGAAC | CCTGACACTC | 720 |
| 45 | TTCTNCTAAC | TCNCCGATTT | TGCGGAATGC | CCTCCAACCT | AGGGCCCCATG | TCCCCCCCCC | 780 |
| | CCGGAATTTN | NTCCCCNNAA | CNGCCTCNNC | CTTCGAAAA | CCCCCCTTTN | CCGGCNTTCC | 840 |
| | TCCCATTGTC | ACNTTCCCCA | C | | | | |

1247RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGCCG | CGCAGCTGCG | GCCTCGTATT | GCTCCCCCTG | GTTACTGTGG | CGCCGCCGGC | 60 |
| | GTGTCCTATT | CGGCATCGCG | TACGCGTCAC | TAAGCCCCCT | CAGGACGGGC | ACAAAAGGCG | 120 |
| | CAGGGCGCTC | ATAGAGCAC | ACAGCGTCTG | GGTCGGGAAG | CACGTGCATC | CGCGGCGTGT | 180 |
| | GCTTGCTCAC | CGCCTCGTGC | GCCTTGCCCC | GCTCTGCCAC | CGGCGCAGCC | GTTGCAGCCC | 240 |
| 55 | CGCGGGCCGC | GGGCGCCCTG | TGCACTGTAG | CGGCACGGCC | GCGGCGGACG | CTCCGCTTGC | 300 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | GGACCGCCTT | GATGACCCGC | TTTGCGCCCC | GCCCCGCGCG | GCTCGCCCCG | GCGAGCGCCA | 360 |
| | GCCCCCGCTG | CACACGCATC | AGCATCCCAT | CCACCGCTTT | CCTGTCGTCT | TCCACCACGC | 420 |
| | TGTCGCCTGA | AGCAGACTCT | GCGCTATCTC | CTCCGCCTCG | GACGAAAGGC | CTCGTCGCTG | 480 |
| 5 | CTCGACTCGC | TCTGCCCGTA | CTTCCGTCGA | AGTACGCGCG | CAGTGCCGCC | GCGCGCTTCG | 540 |
| | CCTCCGCGGC | CGCCGGCGGC | GCGAAGGGCA | CGTTAGGGCG | CCGAGCCGCC | GTCAGACCCT | 600 |
| | CCTCATCGAA | TCCGAACCGC | TGCGCGCGTC | GCGCCAATCG | CCCACGGAAC | CANCCCCCGG | 660 |
| | GGGGGTTNCG | NGGCCCGGCC | GGCCCCCTCC | TTTNNAAAAC | GACNACCNCT | TGNAAANCCG | 720 |
| | TTACCCCNCN | CNNTTCAAAC | NCNNGGAAAA | ATTTTCGNCN | ANNNNNNNNN | CCCCCCCCCT | 780 |
| | NTNCTRNAGAA | ANAANGNCCN | GGCCCTNNGG | | | | |

1249RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| 15 | GATCATGCAA | CATTTCTTCT | TTTCCCGCTT | TCTGCCTGTG | CCGGACGGTG | TGTCCCCGCC | 60 |
| | CCGCACCTCT | GAGGAAGAGC | TTGCGGACTG | CAGCGAGCAT | GCCCACAGTA | CCTGGGGCGA | 120 |
| | CTGCTGCGGC | ATTCCGATAC | CCAGCGCGGT | GGCCGCCTCC | GAGGCCACTC | GCAAGCATTC | 180 |
| | TAAACCACTT | CCATTCGATT | GAATCAAATT | ATATATACCA | TTAAGTAGAG | CTACCATGCG | 240 |
| | AACCTTAGCT | GGGACGCAGT | AAAGATTTGC | GGTTTCCAGA | TCAGCTTCTC | GGGGTTCGATC | 300 |
| 20 | GATCGCCTTT | TCTTCGCTAT | CAGCTTCTCG | TACCTTAGCA | GCACGTCTCT | GTTCAAGTAC | 360 |
| | AAGATGTGCT | GGCCCTTGTA | ATATCGCAGT | ATGTTAAGAG | CCTTGGCTGT | GTGCAGTATG | 420 |
| | TCTGTAGTCG | TGAGCGATGT | CATGCTACTG | ATTTTCATCGA | TCGTGATCTC | GGTGCCGTTT | 480 |
| | TGCACTAGCA | GCTTGATCAG | GGTATCGGAC | CAATAGGCTC | TGTAGAGAGC | AGCCCAAGAT | 540 |
| | CAGAGAGCGG | CTTCTCCGGC | ACCCAACCTG | TTCTCCTTCT | TAGAGAGCTC | CATACGAAAC | 600 |
| | TCAATCAGCA | GCCTGCCGTA | CCCCATCCGC | TGGTACTGAG | GGAGCGTCCA | GAATACACGC | 660 |
| 25 | CACATGTGAC | CCGTCCGCCA | NTCCTTTCCN | TTGGANAATN | CCCACCAAGT | NGGTGCCCCA | 720 |
| | CTCACTCCCC | TGTGTTCTTG | CANTAAAAAA | AAGGTCAANT | TCCTATNACT | CNTGTGNTCC | 780 |
| | AAAAAATTTT | GANAAAGNTN | GTTGCGNACC | ACTTCCTNNT | NCCCCGTCAA | TTCAAAT | |

1249UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GACCTGCCGA | TGGACNGCCG | TTGGCAGGTG | ACTGCCCTAC | GGTCTTTAGT | CCCCGCAAAG | 60 |
| | CGGATGGCCT | TTGTCCGCAC | ACGCAAGAAC | TTGGCAATGA | TGTTGACCAC | GTCCATGGTG | 120 |
| | TCCTTATTCT | CCTTGTACAT | TGTGAAGTGC | ACGCAGTTCT | TGGAGGGGCC | GTACCCCCAG | 180 |
| | TTAATGACAC | CGTTCTCGTC | TCTTGTCTGC | TCCACATAGT | CCTCTTTGCT | GACTCTGGTT | 240 |
| | TTACGGTTGG | CCAGGGCAAT | CTGGAAATGT | TTGGACGCCG | AAGTGACCGA | TTCAAGCTCA | 300 |
| 35 | TTGTTGAACG | CCTTTCGTAG | CAGCTGGTGG | ATCTTCGTCC | GTGCAGCTTT | GTCGTCAAAG | 360 |
| | CTCCTGGTGG | TTTCCATTTT | CGTGACGTTT | CTGTACACGG | CCTCAATCTG | CTGCATGTCC | 420 |
| | TCCTCGCCCA | GTAGCTCTAC | CAGCTGGTTC | CGCAGCTCTG | CCTCCACCGC | GTGGTTGTGG | 480 |
| | CGCCGTTTCG | GCTCTTCAGC | CTGCTGTGCC | TTCACCTGGT | CGGCAGAGGT | TTGGGTTTAG | 540 |
| | CAGGCATTTT | GAACCCATTG | TCCCGCAAGT | ACACCACTGT | TCCATCCTTC | TGGATCTCAT | 600 |
| 40 | TGACCATGAA | GTCGGAATAG | CGCTGCTTGA | TCTGCCCCGT | AAACCCTGGT | ACTCTGCTGA | 660 |
| | GAGGTACTCT | GTGATCCAAC | GTCGATTCCT | TGAGTCCATC | GGTCTCCGNT | TTGGCCCTTT | 720 |

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|----|------------|-----------|------------|------------|------------|------------|-----|
| | NCCNCAAAAG | TTCTTGCTG | CTCCNNANCC | GCTCTNTAAT | CCCCCGAAAN | TCTGTACNNT | 780 |
| 45 | TCNCNATTTT | CNNNTNNCC | TACCTNAACC | CTTGTTNAAC | CTTCCACCCN | ANAANTCATA | 840 |
| | AATATTCCCC | NCC | | | | | |

1250RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | ATCTTAATTT | AAAATTTTAA | TTAACTATTT | ATAATTTAGA | AATATATAAT | CTAGAGATAT | 60 |
| | ATAATCTTAA | AATCATAGGT | AAAAATACAT | AAGATAGTAA | GAATAAAATT | AGTAAAAATA | 120 |
| 5 | ATAGAAAACC | ATAAGTTAAT | TGATTCATAA | AGAAAAATGG | AATTATTTGT | GGCATCTTAA | 180 |
| | TTTTTATTAT | TTAATTGATT | ATTATCTATT | TAACATAAAA | CATTTTAAAA | TGTTATAAAA | 240 |
| | TAAATAAGAA | ATTACTTATA | GAATATTTAT | TAAATAGTAT | TTAATTTAAT | TTTAATATTA | 300 |
| | AATATACCAT | TTTTATTAAT | AAATAGATTA | TTAAGTTTAT | TAATATTAAG | TGATATATAA | 360 |
| | TTTAATTTAT | ATAAAATTAT | TAATTTACTT | CATTGATATA | TATAATTATT | AAATGTACCT | 420 |
| | TTCATAAAT | TTATTTTAT | TAGTCTAGTA | ATATTTCAT | TTAATAGTCT | ACCCTTTAAT | 480 |
| 10 | TGGATATTAC | TACCTACTAA | ATATTTACCT | AATAATATAT | TATTAAGAAT | ACTTAAATCT | 540 |
| | AATAATTTAT | TATCTAAAGT | ATATAAATTA | ATTAAATCCT | TTTTTATTAT | TATTTAATTA | 600 |
| | TTATTAATTA | GTAATTTATA | TTTATTATTT | TATTAACATA | ATTTTTTGAT | AATAATATAT | 660 |
| | CCATATTTAA | TGGTAATTTA | TTAATAATAT | CCTTTAATGA | TTTNATGATA | ACCNTATTAT | 720 |
| | TATGANATTA | GTTAATAGTG | ACCTTAATAT | CCCNATCCNA | ATATATNTAT | TTATTTNTAA | 780 |
| | NAACANANAA | CTTCTTATNN | CATATTTANT | TTNANTATTN | ACCNTTNCN | NNNT | |

1250UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCAAAATT | TCAACAATTT | CCATTTTCATT | TAGTACTACC | ATCACCATGA | CCAATTGTTA | 60 |
| | CATCATTTAG | TTTATTAGGT | TTACTATTAA | CTTTAGCTTT | TACTATACAT | GGTATTATTG | 120 |
| 20 | GTAATATTTA | TCCTTTATTA | TTATCTTTAT | TAGTAGTTT | ATTACTAATA | ACTTTATGAT | 180 |
| | TTAGAGATAT | TGTAGCTGAA | CTTACTTATT | TAGGTGATCA | TACTTTAGCT | GTAAGAAAAG | 240 |
| | GTATTAACTT | AGGTTTCCTA | TTATTTGTTG | TATCTGAAGT | ATTAATTTT | GCTTCTTTAT | 300 |
| | TTTGAGCTTA | CTTCCATTCA | GCTATAAGTC | CTGATATCT | ATTAGGTAAT | GTTTGACCAC | 360 |
| | CAGTAGGTAT | TGAAGCAGTT | CAACCAACAG | AATTACCATT | ATTAATAACT | ATTATTTTAT | 420 |
| | TAGCATCAGG | TCTAATTATT | ACATATAGTC | ATCACTGGTT | AATTGAAGGT | AATAGAAAAC | 480 |
| 25 | ATGCTTTATC | AGGTTTACTT | ATTACTTTCT | GATTAATTGT | TACATTTGTA | TTATGTCAAT | 540 |
| | ATATTGAATA | TAGTAATACA | TCATTTACAA | TTACAGATGG | TATTTATGGG | TCCAGTATTT | 600 |
| | TTGCTGGTAC | TGGTTACATT | CTTACNTATG | GTTAGTTTAC | TAAATTAGGTA | GGTNCTATTA | 660 |
| | NGAANAACAA | GAAATTNCCT | TTAACNCCCN | CCCCTCGGTT | NGANATNNAA | CCNCACCTAT | 720 |
| | TATTACNNTT | TTTNAATAA | NTGAANACCC | CANNATTGTT | NTAANGAAAG | GNNTAACGTN | 780 |
| | NACNACCCCN | TAGNNTTTNG | GTCCCCCCCC | NTGCTACCCC | ATTTTGNCCC | CCCCCACAAN | 840 |
| 30 | AACCCCC | | | | | | |

1251RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCAGGAGG | GTTTTGCGGT | GCTGCGCGAC | GGCGGGTTAG | AGGTAATGCT | CCTGCGAGAG | 60 |
| 35 | GATGACAAGA | CTGTCGCTGT | GTACCGGGAA | GTGGCAGAA | AGTGTATACT | ACATAGTCAT | 120 |
| | AGTTATAATA | AACAAGCCGC | GGCGGGCTCT | AACGAAATGG | GGAGTTGCC | ATGCCACCGG | 180 |
| | GGCGGCCGGG | GCGGCCGGGG | CCGCCAAAGG | GCGCGTTCCA | GCGCGCACCG | GGGAGGAAAC | 240 |
| | CGGGCGGCCT | GCGCGGGTCC | GCGGGGTCCG | CGGGGTGCAA | CTGGCCGCCG | TAGGGCAGCG | 300 |
| | GGGCGGTGGG | CCGTTGTAGC | CGCGGATCGA | ATATCATGCC | GCCCTGCGGG | TTGGGCGCGG | 360 |
| | GAAAGGGGTC | AAACGGGTTT | GGCCGCTTCT | GGCCGCTTGG | ATACAGGTCC | CTGTGCGCGT | 420 |
| 40 | AGCCTGCAGG | GCTGCCAGGC | AGCGGCTGCG | CGGCGCCGGC | CGGGGGGGAG | AGAACCCTCGT | 480 |
| | ACTCGTCTC | GAAGCCAGGC | ATGTCGTGCTG | GCAGCCTGCG | TGCAGGAACC | TGCGCGCGGA | 540 |
| | TTGGCGGAGG | CGCGCCTCCG | CTGAGGGCGT | CNTAATCACC | GGGCTGTGCT | TTTGCGCNGG | 600 |
| | GCTTCTCNTC | CGCCCACCAG | GGNAATTTCC | CTNGNAAACT | TNCCGAACTC | CNCCCCCTTA | 660 |
| | AAACTGGCCN | CNCCCTTTTN | CCTNNCNGCT | NTCCTCCTGC | NNCCCCNTTT | CCCCCTCAAN | 720 |
| | ACCCNCCTAC | CCNTNTCTNT | NGNTTCNNNC | CCTACANCCT | TTCNNCCTNC | TCCCCCNCNC | 780 |
| 45 | ATNTCCTCNT | TNTATCNNA | AATTTCTNTN | CTTTTACCC | CCCC | | |

1251UP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GACTGTTTCG | TGTTGAGGAA | GATAATCAAT | ACCGGAATCC | TCTGAGCTTT | GCTTCGGCCT | 60 |
| 50 | CCATTTCGCT | ATTACGAAAT | TCGCGTGCTG | CTCCTAACGA | TGTTGTACCG | TTTATACAAC | 120 |
| | CGCTTGTTGA | TCGCTTTTAA | GCAGAAAGCC | GTTTTTGCAC | CGACAGAGAT | GACAACCTTT | 180 |
| | GCTACTTCTC | CGATCCAGTA | TTGTTTCAGTG | CTGTAGTCAT | CTTGCGATCG | TTGGTAAACA | 240 |
| | CATATACCCC | ATCGCAGTTG | GAGAAGATCG | ATACCACGTT | GCTTTTCGCTC | TCATTTTACC | 300 |
| | CATTAATTTT | GCGCCTTTTA | TTGTAAAGGT | GCAGCACCAC | AGAAATACCT | GATAAAATCT | 360 |

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|---|-------------|------------|------------|------------|-------------|------------|-----|
| | TAGGCAATGG | CCATATTGGG | AAGTTTATAT | TACTAGCAG | ATGGTTGCTC | ATCCCGGCCT | 420 |
| | TGTGCTGTT | GTTCTAGGG | GCGCTGTTAC | TACCTTTAGT | CCTGTGTTAC | TCACAGCTTG | 480 |
| | TTACCGGCC | GGGCTTCTAT | GCAACTATTA | TATTTGCTTC | TAATATATAA | GTACTGACAT | 540 |
| | TITCATACGC | GCCTAGCTAC | CGCTGCTTTG | TCTTCGGTGA | CTCTCTTCAG | AACAGCTTCT | 600 |
| 5 | TGGAATTATC | TTGTACTATC | AACCATGGAG | ACACTGTTAC | GCCACACCCC | GACCAAAAGG | 660 |
| | AGAACCGAAG | GACAATTTTG | ANCCTCCCTT | TCCCCCGAAT | TANGGNTTNT | GAANATATNA | 720 |
| | ACCGGGACCG | GGTTCCCTNN | TCCCCCGGGT | ANTTNCCCNT | TAAATTTCGTN | TAAANTTANN | 780 |
| | AANGGTNTAT | GGGGNGAANG | AACCCCANCT | GACCCNAAAN | GTTNGNTGGG | GTTTAACCTN | 840 |
| | CTNNNTNCGCC | GTNCCG | | | | | |

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1252RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTCCTAT | TAGTGGGTAG | CTAGCTAGTC | GGCCCGGCTG | GCCGGGCCCC | AACTGGTACC | 60 |
| 5 | GGGTGCGAGG | CCGAGTGACT | AACACTCCGG | GTTCTTCTGT | CTCTTGCCAT | GCCGAACATA | 120 |
| | ACCATGGCGA | CTTATATAAG | TTCGGGCGGC | GTGCAGTCGT | ATGAGCCCGT | ACGAGCAAGA | 180 |
| | CGTCCAGCAG | TTTGACAGCG | GGTAGTCGGG | GCGTTGCAGT | TGTGTATATA | TTGCCACCCCT | 240 |
| | TGCGAACTTG | GACAGCCGTA | TGCTGGAGGC | GGTCAGTAGT | AAGCAGGAGC | CGGTGACTCA | 300 |
| | AAGTAGAAGT | CGGATTGTAA | AGGACAACAG | ACCAGTGGCG | GTACGGACAG | CAGCGGGCCA | 360 |
| | ACGTAGTAAT | AAAATATGAC | GAGAGATATA | CAGAACCACC | TACTCTTCCA | GACGGCCACG | 420 |
| 10 | GAGGTAGCGA | ACAAGGTCCG | GGGCATCTAC | TCCGTGCTGA | AGTCGAAGGC | ACCGGTGACC | 480 |
| | TGCGCTCAGT | ACAAGGACCA | CTACCACTGT | ATTGGGCCCC | TGAATCCAGA | CTCGGTGCAG | 540 |
| | ATAGAAGTGG | AGGCGCTGGA | CTGGGAGGAT | GACAGCGTGT | TGGACCCGGG | AGATTGCTGC | 600 |
| | CCGGTAAAAC | GTCCCCCTGCA | GCACATGCGG | AACCCCGCGT | TGAACTCCGT | ATATGCCCGT | 660 |
| | GGTTNGTGAA | GGTNCCCCCG | GTTATCTTGT | TCAACCTGTT | CCCGTACCCC | CCTCCTCCAC | 720 |
| | AATTGAAGCC | ACCTGTGTAA | CACTGCGGAT | CCCCCCCCCC | CAAAANAACCA | NAAACAAAAC | 780 |
| 15 | CCATCCGTTA | GGTNCCCCNG | NCTGTCCCCG | AAATTAANGC | CGANCCNCNC | TCAN | |

1252UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTTTATC | GCAACNTTTT | GGTCTGTGTT | CGAGTTACGG | GCCTGGCGGA | CCACACCGAA | 60 |
| 20 | AGCGCCAGCT | CCGAGTGTTT | TGCCGAATAT | GTAGTCGGCT | TTGTTTACAT | ACGAGGCTGG | 120 |
| | TTGACCTGTC | ACCTTGTGGA | AGAACTTCGT | CAACATGTTG | GCCTGAGACG | GAGGACGATC | 180 |
| | CTGGGGCTTC | GATGCGTCTT | CGTCGTGCTC | CCCTACACCC | TTACCGAGTT | TTCCGGTGGA | 240 |
| | ACTAGTGAAC | ACTGCCATAG | CCTCGCAGTT | AAAGTGATGT | GGCAATATTA | TATTGTAGTT | 300 |
| | TTGTTCTTTT | CTTGATTGTT | TTAGGCTGCC | GATAGCCAC | GAGGTGAAGT | TTTGTACACT | 360 |
| | TCACACATCC | CAGCACTGCC | ATCACGACAG | ATGTTGAAGA | TCAAATTTTCG | CAGCTACATG | 420 |
| 25 | CTGCATTGTG | GTGCTTGGGT | TAGCAGTAGC | GGCTAAGTTG | CAACTACATT | GTCCCCATTTC | 480 |
| | ACTCAGAAGT | ACCTCGGTTA | AGCTCACTAT | GCGCTTATTG | CCGAGCGAAG | CCGAGCATTTG | 540 |
| | TTACAGCAAT | GATGAGAAGA | GGCTATPTGT | ATGTTAACAT | AACGCCAGTA | GTGTTATATT | 600 |
| | TACCACTAAC | CATAGAAAAA | GTACAGAATA | TCCGTAGCCT | ACGAACTGAA | TGAATATNTT | 660 |
| | GCTTCCCCNC | CCCGNCCNTA | TACCAATGAA | TAAATAATTG | GATTTGCTAA | TATCTNCCCC | 720 |
| 30 | ATATCCNGCC | GGGCCCCCGA | NNCCCTNCAA | CTTATTGGTN | CACNCCNCCN | TGCCNCCNCCN | 780 |
| | TTTNTTTTNT | TCNNGGAACC | CCCCCCCCGT | CATCNTCGNN | TGNNTNAANA | TGANTACCCT | 840 |
| | CCCTTGNTCC | CCCNCCCC | | | | | |

1253RP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCCTAACC | AAGCTGATTG | ACTCCAACCT | TCCACTTGCC | ACATTTCGACA | AGCTGTTGCA | 60 |
| 35 | GAGCTCGACG | GCCGTGGGGG | GTGGTGGCTC | CATATTGGGA | TCAGATGGTG | GGTGTACAGA | 120 |
| | CACGGAGGCA | TTGGGACATG | ACCGAAAACG | CAAGAAGTTG | GAGCCCCGCT | TCCCGGCGCC | 180 |
| | TCCGCCGAGC | GTGGCACTCG | GCCCGCGCCA | TCCGCCATAT | AATTCTGAAT | TGGGCCTCAA | 240 |
| | CTACTTCCGC | GAGAGCAACG | CGCAGCCGAG | CGTGATGCTC | CCGCAAGTGC | AGCAGCGCTG | 300 |
| 40 | GAACAAGCT | CCTCGACAAC | AACCCAGACA | ACAGCATAGA | CAACATGGGC | AGGCCGAGGA | 360 |
| | AACGGGTTCA | CCACCAATGG | CTCTTCGCTA | TC CCCCTCCA | ATGTTAATGA | ACAGCAATTA | 420 |
| | TACATTCCCT | GCCGGCCCCC | AGCAGCCGCT | CGGCCCGCAT | CCACAATCGC | GTGCCTCGAC | 480 |
| | GCAGCAATCT | GATGTCCGAG | CTACCCCTCC | CGGAATATCG | GCGTAGCACC | ATCGTCCCAA | 540 |
| | CTTCCACAG | CCCCCACCGC | TGACTAGTCT | TTTGTCTAAA | CATCAGCCTC | ATCACTCGCA | 600 |
| | GCCTAATGAG | CTGCCTACCT | CCCATGCATA | TGTACAACAG | ATTTGCCTAC | TCCAATAGCC | 660 |
| 45 | CAGTTCTGAA | GTCTGCTTGC | TTAAGTTGCG | CCCTCTCCCC | TTGGCCAAATN | TATCCTTGTN | 720 |
| | NNNAAAACCN | AACCCNNGTT | CCCTGTGCCC | NGAATTTCTA | CTTTTACCGT | CCGTTATTCC | 780 |
| | NTAAATCATA | ACCCGGTTCA | ANAACCCCTT | CCTTGACNAT | ATCNCAATTGN | GCNANCCCNT | 840 |
| | C | | | | | | |

1253UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGACGAG | TTCGATGTTG | AGACGTTCAA | GAAGCTGTTT | GCGAACTGCA | TTGCAAGGA | 60 |
| 50 | TGTGGATGTG | CGCGAGGTTG | TCGCGGAGTA | CCGACTGATA | GTGCCGTGTG | AGGAGCCGGG | 120 |
| | TGGGGTGGCG | CGCGCGGGCG | CCGGTGACGC | GGCGGAGGCG | GAAACGGAAAC | CGTTTTGCGA | 180 |
| 55 | GGAAGAGAGC | AAAGAGATTA | GGATCATTCT | GCCTCCAAAG | CCAATTGCGA | TTGAGTTTGT | 240 |
| | AAAGAATGTG | TGGGAGAAGT | GCTGTGTGCT | GTACCGTTTC | TATCACCGCC | CGACTTTCAT | 300 |

| | | | | | | | |
|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | CAGGAAGCTG | GACGACCTGT | ATGAGACAGA | CCCGCGTGAG | TACACGCACG | AGCAGCTACG | 360 |
| | CTTCTTGCCG | TTGTGCTACG | CTGTCAATGGC | AGTGGGTGCG | CTGTTCTCTA | GCTCCATGCT | 420 |
| | CCCTGGTCCG | GGAAGCGAAG | ATGCGGGCTC | TGCAGGCAGA | ATAACAGCGG | CTACATTGGC | 480 |
| 5 | GGATACGGAC | ACACGGCACG | CTTATCTGCA | CGACGAGGGC | TACCGGTACT | ATGTGGCTGC | 540 |
| | GAAAAAGCTA | GTGATCTCAC | GAACGCCCGT | GACACCGAGG | CGAATCAAAC | CTTGTTCCCG | 600 |
| | TTTGTGTTCT | CCCAAGTTCC | GCGCGGTGNC | CCCGGCATCC | GTTTTTCTGC | CCNGCTATNA | 660 |
| | ATTCCNCCCN | CCTNNAGANT | CCACCCACCC | CCCCCGGANA | ANTAAAAAAA | TTTCCCCCCC | 720 |
| | CAACCGGAAN | TCCCNCCCCG | NTTTACCCCC | CTTANAAAANG | AGGTTTTTTTA | AACAAAACGG | 780 |
| | GGNGCCCCNC | NCCCCCGGNN | CNNACATCC | CCCCCCTAAA | TCGGAANAAT | NNCCGAAACC | 840 |
| | GC | | | | | | |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1254RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGGCCAC | ATTGTCCCTG | AGGCCTATGA | AGGCGGCCCA | ATTGCGCTCG | TGCAAGACGG | 60 |
| 5 | TGACGACATT | GTATCGACG | CCGAGAACAA | TGCCATCAAC | CTCCTTGTGC | CAAAAGAAGA | 120 |
| | AATTGAGTCG | CGCCGCGCTC | GCTGGACCCA | GCCCGCTCCA | CGCTACAAGA | GGGGCAGCGT | 180 |
| | CGCCACCTAT | TCTAAGTTAG | TCTCCAACGC | CTCCAAGGGT | TGTGTCTTGG | ACAGCGACGA | 240 |
| | CTAGCACCTC | GACGCAAGTC | ACTATTTATT | AACAAGATTA | TGTATATAAG | CACCCCGCCA | 300 |
| | TGTCCATTGA | ATGGACCGCA | TATGTAACAA | AAATCGAGGA | TGCTTCCCTA | TCGTCTACAA | 360 |
| | ATCTCAGGAT | GTTGAGTACC | TTTCAGGTGT | CTGACTGAAA | TAAATGTTGA | ACTTTGATAG | 420 |
| 10 | TACTTTTATG | TTTGAAAAAT | TTTAAAAATT | TATTGTATGG | CTGTCAACCAC | GAGTACTCAT | 480 |
| | CTTCAACCGA | CATTACGGGT | ACCTGAAGAG | CTTATCTATC | GATAACATGG | CGACTCAGGA | 540 |
| | GGCGGTATTT | ATCGGGCGCA | ATAGGCAGAC | GAAGGTGTGG | GACTTCTATT | TGCCGACCAA | 600 |
| | GACTGTCCAT | TCGACTGGAA | AGTGCATCCT | CTATGGAATC | CGTTGGACGA | ACNCAATGCG | 660 |
| | GNGTTTNGNC | CATTGAAGGC | CNCAACCGCA | GNTACTCGGN | AATTTATGGG | GCNAAAAACT | 720 |
| | TTTGGTTCACN | CTCNCNCGAAG | CACAATNCTT | CGGCAAGNAA | NAAAAANGGA | ATTGNCNAT | 780 |
| 15 | TTGGAGCCCN | AAACCTNTAC | NTNGCNTGGN | GNNGGGTANC | TCCNNTTCN | ANGTCN | |

1254UP

| | | | | | | | |
|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTCTGGT | ACCCAGCAG | CCCTGGCGGG | GACGTGGCAT | TGGTGACTTC | TCCCCAGGT | 60 |
| 20 | AACCGGGTGT | GCTCTCAGCC | CCTTCCCCAC | ATTGAAGTTA | AGCTTGTTAG | CGGTACTCCG | 120 |
| | CTTCATTTTC | TGTGCCCGGT | CGACCGGTAG | CGTCATAGTC | CCGCCGTGTG | GCCGACCGCG | 180 |
| | GGCCGCCATC | ACAGGTATCT | ACAGTTCAAC | GGCCGCGTCG | CGATCCCAAG | CGCAGTCTGG | 240 |
| | AATCTCGAAC | GGTGCTACAA | AGAACGGATG | CGTGGCAGAT | CGAAGCTATC | GAGAAGTTGG | 300 |
| | TGGGGGAATT | GAGTGAAAGT | ACACGAAGGC | AGGGTGTGAG | ATCTCGTACC | TCTCGCATAC | 360 |
| | AGTACGAGAA | GGAGTCCGGC | ACGGTGTTC | GAAATCAGCG | CAGTGTCCAG | TGCGGGGAAG | 420 |
| 25 | CGTGCAAAACG | GAACCTCGAA | ACAATCCGAC | GGACCTACTG | CCAGGTCCAA | GCCCTTTCCA | 480 |
| | CGGTGTACAC | GCTAAGATGG | TGACTGGCCA | ATAATTTGTC | ATGCTGGTAT | TCGTGTGTGCG | 540 |
| | ACGATTATCT | ATTCCGGTTCA | GCCGTTTATA | TTTAGGTGCG | CTGCAAAACGT | GGTGACATCA | 600 |
| | CGATTGCACT | GTATATATGA | TGGAGTAATT | CGCATACACT | GAAAATCNTA | ATAATCAATA | 660 |
| | ACCCATGCCN | CNACTCGNCA | ACTTCNCCNC | TTGNGCTCCN | GGTGAAATCC | CCTTCACTAN | 720 |
| | TTTTTTTTCAT | TGCCCATTNN | ACCGAACTTT | ACNAATNATG | CAATGANAAC | CNCCCCCTCC | 780 |
| 30 | AAACCTANAT | CCTTTTNTTN | NGGGTCCCN | ACNGTTNCCN | TTCCNGNCNA | NCCCNCTTTN | 840 |
| | ATTCCAANAC | | | | | | |

1255RP

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|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| 35 | GATCGTGTG | TCAGGGTGCA | TTGCAGTGGG | CCTGAAGACG | GTGGGGACTG | ATCGGCGGCC | 60 |
| | GAAGAAGCTG | TCGCAGCTAC | AGGCGATTGC | GGCTGTGGGT | CAGGGCCGGC | TTATTGCGCG | 120 |
| | GTGGGACTCC | CTCTTCAGAC | CGTTCAACGA | GAAGATTGCG | CAGATTTTGT | TGACACGGAA | 180 |
| | CGACATAGTT | GACTGGTCCG | AGTATAAGAA | CGCGCAGAAT | ACGTTCCACG | AACTGCTGGC | 240 |
| | GATGGGCGTG | ACGCCGATTG | TGAACGAGAA | CGACACGCTC | TCAATCAGCG | GAGTGAAGTT | 300 |
| 40 | TGGGGACAAC | GACACGCTGA | GTGCGATCAC | AGCGGGGCTG | ATCGGCGCAG | ACTACCTGTT | 360 |
| | CCTGATGACG | GACGTGGACT | GCCTATACAC | CGACAACCCG | CGGACGAACC | CGGATGCAAA | 420 |
| | GCCGATCTTG | GTGGTGGCGG | ATCTGTACAC | GGGACTGCCC | GGCGTGAACA | CCTCTAGTGG | 480 |
| | GTCCGGTTCA | GGTGTGGGCA | CCGGCGGCAT | GGCGACGAAG | ATCCTTGCTG | CAGACCTGGC | 540 |
| | AACGAACGCC | GGGTGCATAC | GATTATTATG | AAGAGTGAGC | GGCCGTGAC | ATGGTGGCGA | 600 |
| | TCGTGGAGTT | CATGGAATGG | CGCAGCAGTG | CAC'TGCAGTT | TC'TGCTGACG | CGAGACTTGC | 660 |
| 45 | AGACGGACGA | GCTGAATTTG | TTGCAGAGCA | CGGCGTCCCA | CTACACACGC | NCTTCNTGCA | 720 |
| | ACTTTGCACC | TCCTGAACNA | CNGATTCTNTG | ATCCNCGTC | TGTGACNCGG | NCGTATCTAA | 780 |
| | CAGGGGCTNA | GGCCCCCCCCA | AACAAC'TGNT | CCCACGTTNT | CCGTCAG | | |

1256RP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|------------|-----|
| 50 | GATCTAATGG | CATTCTCCCT | ACCAAATGGG | CCCAATTGTA | TATTGCCGAT | CTTCCTACAG | 60 |
| | GGNACTGGTT | TACGGATCCA | GCGAAGATCG | GGAGAGTTCA | GCTCTTGGTA | TTGCCGACAT | 120 |
| | TGTGTGCAAA | ACACCAAGCTG | CAAACTTGAG | GCCATATGTC | ACTGTCAATCA | CAGGTCACAT | 180 |
| | TATCCGTGTT | GTTGGCGAAA | GGTCTAGCAG | TGATATTAAG | GCTGCTATCC | TATATGCCCT | 240 |
| 55 | AAATGTTCTC | TTTTCGAAGG | TTCCACAATT | CCTGCGGCCA | TTCATACCTC | AACTACAGAG | 300 |
| | AACATTTGTT | AAATCTCTTT | CCGACTCAAC | CAATGAGACC | TTAAGATTGC | GGGCGCGGAA | 360 |

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GGCACTAAGT | ACTTTGATAC | AATATCAACC | AAGAATTGAC | CCTCTGGTGG | TGGAGCTAGT | 420 |
| | AACAGGCGCT | CAGCAGGCCA | CTGAAAGGGG | AGTAAGGACG | GCTATCTTGA | AGGCATTGTT | 480 |
| | GGAAGTTGTC | TCCAAAGCTG | GCAGCAAGAT | AAGCGAAGCT | TCCAAAGCTA | ACATCATTAG | 540 |
| 5 | ACTTGTGGAG | CAAGAGATGG | CATCCACAGA | CAGCAAGTTT | GCAGTCGCTT | ACGCCAAGCT | 600 |
| | TCTAGGTGCA | CTTTCTGAAA | TCATGTCTCC | GGAGGAGGCG | CAGACCATAC | TTCACGAAAA | 660 |
| | GTGCTTGATC | CAATTTTGAA | GANGCACNGT | AAATTGCCGT | CNGACCCAC | TCTATCCTNC | 720 |
| | TACCCCTGTA | CNTTCTCCCG | CCATNCACCN | ATNTTGACTN | TNGTGGTGC | ACGGATCNEN | 780 |
| | ATCCTTCNN | CACACGTTTN | CCCNINGNAT | TCCCCCNAA | NGAAAGTNAN | CCCCC | |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1256UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCAACTGG | TCCGGGCGGGC | TGCACCACGC | CAAGAAGAGC | AATCCTTCGG | GTTTCTGTTA | 60 |
| | CGTGAACGAC | ATTGTCTCTGG | CGATTCTGAA | TCTGCTGCGC | TACCACCCAC | GCGTTCGTGA | 120 |
| 5 | CATTGACATT | GATCTGCACC | ACGGAGACGG | TGTCCAAGAA | GCATTCTACA | CTACTGACCG | 180 |
| | CGTGTTCACG | GTCTCGTTCC | ACAAGTACAA | TGGTGAGTTT | TTTCCGGGAA | CGGGGGATT | 240 |
| | GGATGAGATC | GGATGCTCGC | GCGGCAAGCA | CTTTTCGCTG | AATGTGCCGC | TCAATGACGG | 300 |
| | CATCGATGAT | GATTTCGTACA | TCAACTTATT | TAAGAGCATC | ATAGACCCGC | TAGTTACATC | 360 |
| | ATACAAAGCCA | ACAGTAATTA | TTCAGCAATG | TGGAGCAGAC | TCTTTGGGGC | ATGACAGACT | 420 |
| | GGGGTGTTC | AATCTAAATA | TCAGAGCCCA | CGGCGAGTGC | GTCAATTTGT | GAAGTCGTTT | 480 |
| 10 | GGGATACCTA | TGCTATGTGT | CGGTGGTGGG | GGTTACACCC | CCAGGAATGT | GTCCGCGCTA | 540 |
| | TGGACGTACG | AGACAGGCAT | CCTTAATGAT | GTGCTCTTAC | CTTCAGATAT | CCAGAAAGAT | 600 |
| | ATTCCGTTCC | GCGAATGGTT | CGGTCCAGAC | TATCTCTGCA | CCCGGTCTTT | GGATGANNTN | 660 |
| | TCCAAAATAA | ACNCCCAAAT | TACTGGANAA | NATACGTNCG | GNTTTAAAN | NTAAATNTTG | 720 |
| | CNCGGGCCAT | TTTCNCNTGA | NNCGAATATC | CTCCAGATTT | CCGTTTAAAC | AAAAAAAAT | 780 |
| 15 | GATCGGAANA | ACCAAAANAT | NCCTTGNTAA | CANTNAAGAA | NTTGGCCGNN | ACTTNTTANT | 840 |
| | C | | | | | | |

1257RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCACTGGT | GTCACCAAGG | GCTACAAGTA | CAAGATGAGA | TATGTGTACG | CGCATTITTC | 60 |
| 20 | CATCAACGTC | AACGTTGTCT | AGAAGGACGG | CGAGAAGTTC | ATTGAGATCA | GAAACTACTT | 120 |
| | GGGTGACAAG | AGAGTTAGAG | CTGTGCCTGT | CAGAGAGGGC | GTCAGCGTCG | AGTTCTCCAC | 180 |
| | CAACCAGAAG | GACGAGATTG | TTTTGTCCGG | TACCTCCATC | GAAAACGTTT | CTCAGAACCG | 240 |
| | TGCTGACATC | CAGCAAATCT | GCCGTGCCAG | AAACAAGGAT | ATCAGAAAAGT | TCTTGGACCG | 300 |
| | TATCTACGTT | TCTGAGAAGG | GTGTCATTGC | CGAGGAAGCC | TAAGTGCCCT | ACTGACCGTA | 360 |
| 25 | TCCTGATAAA | TAATATGAGT | ATTATGTAAT | CAAAGAATCT | ACTGCTTTTT | ATTGGTGGTG | 420 |
| | TTTTCGTCAA | ACGCTCTTAT | TAGCGCCGGG | GTTAGAGTGT | GGGAATACTG | GCGTTATATG | 480 |
| | CTTTAGAAAT | TATGTTAAAT | AAATTTAATG | TCCTATCAGG | GCCACAGCCT | TAGCAACTAG | 540 |
| | GTGCAGGTAC | TCCTTTAGCT | TGCCACTGTT | CTGGAACAGA | AGATATATTT | TATCTGTCTC | 600 |
| | GTTCGCACCA | TCGTAGACAG | GTTTACCGCT | TCCTTGCAGG | AACGATGGAA | CGCCAGCTTT | 660 |
| | CCGCGGTGGA | AGTTATAGGA | ATTATGGATT | CCAATGACAG | TTGGTGTGTT | AACNANCCTG | 720 |
| 30 | ATTGTCCAN | TTTCCCGTCT | CNGAAGCTNC | ANTGNTTCCN | TGACCNANCA | AACCCGGGAN | 780 |
| | ACCCCTAGGG | CTGNNAGGCT | TGAATGCNTT | AAAANANTTT | CNTTGANAAA | NCATTGNTAA | 840 |
| | T | | | | | | |

1257UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCGGGCCG | CTCACACACT | CAGGTACCTC | AAAGGAATAC | GAGTTTGTCT | CACGCTTCCC | 60 |
| | GTGTCCAGAT | GCACAGAAAA | TGCATATGTA | CATCAAGGAG | CCGCAAAACA | AGTACCTCTT | 120 |
| | TTCGGGAACA | GAGTACACTT | TCCAAATCAT | CTGCAGCCCT | GCAGACGGCC | TCACTCACGA | 180 |
| | TCCATACGAC | GCGCAAGCCG | CTGCGCCAAA | TGTGATAGTC | GTCCAGTCCC | CATCCGGCAA | 240 |
| | GATCTACCGT | CTGAAAAAGG | CGGAATCCGA | TGTCGAATTT | GGCGTATGCG | AAGCTAGGCT | 300 |
| 40 | AAAAGTGCAC | GAGCCAGGCG | TCTGGCTGGC | CCTAATTACC | TCTGAGGCAG | GTGCTGGTTG | 360 |
| | GTGCACTTTC | GCGAAGTGGA | TCTGTGTTTA | ACACCTAGAT | GCTACACAGT | CATCCACCCC | 420 |
| | ACGAAATTAA | TAGATAGTAC | GGGTACATAC | AAGCCCTATA | GTTTCTTAAT | ACACTTGCCC | 480 |
| | TATATTGAAT | ATGTCTACGA | AGTATATGGG | CGAGGCACCT | TCAAAATCGG | TGAAAAAANA | 540 |
| | TGCACCACCT | CGAAATCCAT | GTTTTATGAG | CTTAAACAAC | AGTGGTTGTT | GAAGAACAAT | 600 |
| | ACCCTGCCAA | GGAAATGTCA | GGTACTCGAA | CCAGCTCTCA | ACAGATTCTT | AAAGATTGCC | 660 |
| 45 | AGTGTGTGTA | CCGAATCCAC | GTTTCGTGAA | TGCTGGGACC | GACATCAGAC | CCTTGCAATT | 720 |
| | GTACAAAATC | AGTCTATACG | GNGAGCGCCT | GTNTGCCCN | AAAANAAANA | CCACGGAAGG | 780 |
| | ACNCATTGTC | ACTTGAACNG | AGNCAATGTG | TNCNGTGACG | CGGNTNTTTC | GNTTCAAGCC | 840 |
| | CCAAGGACAA | NAACGC | | | | | |

1258RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCCAACCT | TCTACTAGGG | TATTTTTCCC | TACCTCAGCC | TGCAATTCCA | TGCCATCGCT | 60 |
| | AACCAAGATA | ATATTCTCCT | CCAGTAGATC | CATATTCTCT | CCCGACTTCG | CACTAATCGG | 120 |
| | GATGACTGGC | ACGTTTCCAC | CCAGATCTTC | AGCATGTATT | TCATGCTGTA | GCAAAATCAT | 180 |
| 55 | CATTATTTTG | TTGATCACAG | TTTCTTTTTT | TTTTGCCGAC | CGGAGTTTGT | CCACCTTGGT | 240 |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| TATGGCGACA | ATCAGCTCAT | TCCCTGATTT | TTTGACATGC | TTAATCGCTT | CAATGGTCTG | 300 |
| GGGTTTAAIT | GAGTCTTCGG | CAGATACTAC | CAAGACAACG | ATATCGGTAA | TATTCGCGCC | 360 |
| CCGTTCCCTC | ATCTTCAAAA | ATGCTTCGTG | CCCGGGCGTA | TCCAAAAACG | TGATCTTCCG | 420 |
| CTTCGAAACA | GGTGTGACAA | CCTGGAACGC | ACCAATGTGT | TGTGTAATGC | CACCAAATC | 480 |
| CTGCGAAACG | ATGCTCGACT | TCCGCAGATA | GTCCAAATATG | GTGGTTTTGC | CGTGATCAAC | 540 |
| GTGACCCATA | ATCGTCACAA | CAGGTGGCCG | GTCCTTCAGG | GCCTTCGGGT | CTGCAGGCTG | 600 |
| CTTCAATTCA | TCGTAAACGT | TCTCCGGAGT | GACAATTCCC | TGCCGGAGGG | CAGTTGGTAG | 660 |
| CTATCTCCTC | CCAATATAGC | TCGATGTAGT | CTCCTGGAAA | TATGTAGTCC | GCCTGGCTTT | 720 |
| TCAA | | | | | | |

pAG1258up

1 GATCCTGTTT ACAACTAAGT TCGCATCCCT ACCAGGGGAA AATATGAAAT
 51 ACCAAGTGTT GTATTCCGAA CGCTAGAATT CTTGTACAAA AACCGCGGCA
 101 TTCAGGAAGA AGGTATATTT AGGTTAAGCG GATCCAGTTC TCTCATAAAA
 151 TCTTTGCAGG AGCAATTTGA CAAAGAATAT GACGTGGATT TGTGCAATTA
 201 CAACGATAAA GTTTCTGTCA CACCAGGAAA CGAAAATCAG GGCGGTCTCT
 251 ACGTCGATGT GAATACCGTT TCAGGTTTAT TAAACTATA CCTAAGAAAAG
 301 CTTCTCATA TGATCTTTGG GGATGCTGCA TATATGGATT TTAAGAGAAT
 351 CGTGGAAGA AACGGAGATG ATAGCAAAT AATAGCACTC GAGTTCAGGG
 401 CATTGGTTAA TTCCGGACGA ATTGCCAAAG AATATGTGCG CTTAATGTAT
 451 GCATTGTTTCG AGTTATTGGT GAAGATCACC GAGAACAGCA AATATAACAA
 501 GATGAATCTG CGGAATTTGT GTATCGTATT TTCGCCAACG TTGAACATAC
 551 CCGTGAATAT ACTACATCCG TTTATCACTG ACTTTGGCTG TATATTCCAA
 601 GATAAGGCGC CGATGGAGAA CGGACACGGT CAACATACAC ATCCCGCAAT
 651 TTAGTTCATA CTAAGTAAAA TACTATTAAC TTAGAATATG TGATAAGTGT
 701 TTTAATTACN TAACTTGGTA TTAGTCCNAT TGTNTAATAA TTGAATATGA
 751 ATGCNTTATT NTCTCTNANT CAATNTGTCA CGATTGGATT TACACCGCG
 801 TCTGTAANGA CNTCTAGCTT GGTCATCCCA NTTCTCANTT NCTCCCGCTT
 851 NCA

1259RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCACACGA | ATATTGCGGG | AGTATTCTC | CATCGTTCCG | CGCAACCGCG | CCTGCGCATC | 60 |
| 5 | GCGCGTGAGC | GATTGCGGCT | CGTTGATGAT | CACACTCTTG | TACCTCCGCG | CTAGCCCTCT | 120 |
| | CGATCCGCTC | TGGAAATCCA | CCTGCTCCAT | CTGCGCAATC | TCCTTCAACA | ACTCCTGAAT | 180 |
| | CACGATCCGG | TCATTGTGCC | CCATGTCGCT | CGGCGTGATC | TCGATGTGGT | ATGGGCTGCT | 240 |
| | GACGACGTTG | AGCTCGAGCT | TCTTGTTAGA | TGGCGTAACA | AATTGCCGCA | CATCAATCTT | 300 |
| | TAATTTGTAT | ACACCTGCTC | CAAAGATACT | TGCAAGGAGC | CCCATGCACC | GTGTCTTCTT | 360 |
| | CCCACCTCCA | TTGGGCCCGT | AAAGTAAAT | ATGCGGCAGG | TCCTTCGCAG | AACTGCTTAA | 420 |
| 10 | AGCCTCGAGC | TGCTTGGTAA | GCGATGCCGT | ATGTGAAAGG | CTGGTCAACG | ACTTCGGTCT | 480 |
| | ATGCTTGTCA | ACCCAAAGTG | ACATATTCTT | GTGTATCTTG | AGATGGGCTT | TTGTGTGTTG | 540 |
| | TAGGGAAGGT | GAGCAATTCA | GTCGCAATTA | AATTCATTTA | GATTCCGCTT | TTAGCACAAA | 600 |
| | ACGATATGCC | CTCAGTAAGG | CCAGAAATACA | TACACGTACT | TCGCCTACTA | CTTTTGACAG | 660 |
| | AAGTAAAGCT | CTACGAGAT | CGCTCGAGGA | GATGGCATGT | ATATAACCCN | CAATTACTCT | 720 |
| | GATGCNAAAA | ATGTTGCACC | CNTGCCTTTT | TANTTCNGTC | GACAACTANN | AGAGCCTNTA | 780 |
| 15 | TCNAGTCCAA | ATTTTNCCAA | ANCTGGGAAA | ACCTTNINCC | GTGGTNTATN | AACACA | |

1259UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACCCCC | CAAATCAGCA | ATAACTCGAA | AACCTGTGCC | AGTACCTTTC | AACGCGCATG | 60 |
| 20 | AACCTAACGG | CGCGCAGCGG | TCATGGGTAC | TGACTGCCT | TTGTATCCCT | CACACTGCGC | 120 |
| | CTCTTCGTGT | GCCGCACTG | CTTGTTGATG | GTAGCGGCGC | GGCCCGGTGG | ATCTAAGCGC | 180 |
| | ACGTCTCTTT | GTACGTGGGT | CTCACGTGCA | CATCGTCATC | CATCCGCTTG | CGAATGAGTA | 240 |
| | GATCAGCAGC | GAGACCATGC | TAGGCAGGGC | CGTTGGGCGA | GGTGGAAAGG | TTGCAGCATT | 300 |
| | GAGGTGGAGC | AGCAAGATGA | CATCACAGGA | TAGTAGTCGG | AAGAAAGAGC | TATGTGCAGC | 360 |
| | GTACAGCGTA | GTGGATGAGC | GGGTTTCCGC | CAGCATGGAA | GAATGCCGAC | GTAGAAGGTC | 420 |
| 25 | GGAGGTTCTA | TTGCTTGCCG | TTTCTAAACT | GAAACCTGCC | TCCGATGTGG | CGATACTGTA | 480 |
| | CGAAGAAATG | GGGCTGCGGC | ACTTTGGAGA | GAACACGTG | CAGGAGCTGG | TGGGGAAGGC | 540 |
| | AGCAGAGCTG | CCGGGCGATA | TCCAGTGGCA | CTTTATCGGG | GCGCTGCAGA | GTAACAAGTG | 600 |
| | CAAGGACCTG | GCGAAGGTAG | TGAACATGAT | GCGGTGGAGA | CCATCGACTC | GCTAAGAAGG | 660 |
| | CGCGGAAGCT | GAGGAGGCCG | TGCGAAGTTC | CAGCCGAGCC | CCCGCATCTG | TGTTACATTG | 720 |
| 30 | AGTGAACTNC | CTGGCAACNC | AAAGNNGTTN | CNCGATGAGC | NACNGTGAC | TGTGATTCTT | 780 |
| | CTNCCAAAAC | AAACCTTCCC | TGCCCCGACG | TAAATGGTCC | TGGACCTTCC | CCGCGAAGGG | 840 |
| | AACCGATCCC | C | | | | | |

1260RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCCTCAGA | GGGCCCCGAA | GAAGCTTCGG | CCGAGACAGT | AACGATGTTT | GGCGAGGTTG | 60 |
| | TGCTGTATCA | CAGTTGAGCT | CTAGGTTGCA | CTTTCCGAAA | GAGCGCTACC | GTAGCTGCAT | 120 |
| | GAAAAAAAG | TAAGGCTCAT | CAGTTTATGC | AGAGGCAAGA | ATAAGTTTGG | TAGAGCCTTA | 180 |
| | CTTCACAAGC | CTCGCTCTAG | CGAGCCATAT | TATTCTATGG | CCGGCAAGAG | AAGACCGAAG | 240 |
| | AAGGCCAGAG | CTCCATATCG | AAAGTACGTG | GCGGGTCAAG | GGTTTGTCGA | TACCTACGGG | 300 |
| 40 | GTTTCCAGTA | CTGAGAGTTC | AGCACACGAT | GAAAGCGGTT | TGTTCCCCGC | AGACAGTGGG | 360 |
| | GTGCAGGTAT | CTGACGATGA | TATTGCCAGA | CGACTTGTTG | ATATGACACT | TTCCGCAAGC | 420 |
| | GCAGCGTTTG | CCGCTGGAGC | GGCACCCATA | CCGTATCCCG | GACACTCAAT | GGTGCTTCCC | 480 |
| | TGGGAGCTGC | AGTTTTTGGT | TCTGTCCAAA | TGCAAACTA | TTGAAACACA | CTTCATGCAA | 540 |
| | GTGTGCAGGC | GGTGGTATAT | CATGTGTCTG | CCATTGATCT | ACCGAGCACC | AAGGCTCTCC | 600 |
| 45 | AGCAAGACTT | CTACAAGTTT | GTGGAGACAC | TGGTGGCAGC | CCGTAAACAG | AATTACCGGC | 660 |
| | AATATTCTTC | GATCTCGACC | GTCCATGAAT | ACCNNANCGC | AAACCTTTTC | CAAGGTCTCT | 720 |
| | CCGTTGCTCC | CACCTTGGAC | ATTCCGGCCC | CAAACACTCG | TATCCCNITG | AATCTTACGG | 780 |
| | CNNCCCNNTT | GCAACCGATT | TGTCTNTTCC | CAACGTTANC | GAACNCTTTC | AG | |

1260UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCGACCGG | CCGCCCCAGC | CGGTGCCGTG | GGTGAAGTCG | CCGCCCCGGA | TCATGAAGTT | 60 |
| | GGGGATGACG | CGGTGGAACG | TGGAGTTGAT | GTAGCCCGCG | GAGGCGTCCT | GGCTCTTTGC | 120 |
| | GAGCGTGACC | AAGTTGGCGA | CGGTGCCGCG | AGCGACGTCC | CCGAACAGCC | CGAGCACGAC | 180 |
| | ACGGCCCACT | GGCTGCTGCG | CGTGCTGCAG | ATCGAAGAAG | ACACGCTGTG | TGACGGTGGG | 240 |
| 55 | GTCTGCGAGC | GCGAACCGCG | AGAGCAGCGC | CTGTGCGAGA | ACGAAGAGGA | CCTGCATTGG | 300 |
| | GGGTGGCTGC | GGGAGGCGCG | GGACGCGCGG | GGAAACGCC | CGCTTTTATA | CGCGAAAAAG | 360 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | CTGCTTCGGC | TACGTAGCTA | GAGATACAGA | GGCGTGGACT | TGAGGCTCTG | CAGCATCAGG | 420 |
| | CGGTCCATCA | TCTCGGGCGT | CAGCACGTCC | GAGTAGCCCG | CGGTGCGCGC | GTCCAGCGCC | 480 |
| | GCGGTCAGCG | CTGGCGCAGT | GGCGCTAGAC | GCGGTCGTGC | CACTGGCCGG | CTGCACGGAG | 540 |
| 5 | TTCTGCTCCA | CGGGCAAGAA | GGCCGCGCCC | TGGCCAGGCT | GGAAGCGCGC | CAGACGCTGA | 600 |
| | TCGCGCCCCAG | CGCGGCCGAC | AGGTGGAAGC | CGGTGACACG | CAGGCCGTTC | TGCACCACGC | 660 |
| | TGTACGCCGT | GGCGCCTGTA | CCTTCCCCNA | ANANGTNTAT | CTTGACGCAT | CACCGTTCCG | 720 |
| | CCCCCGCTGC | TTCCGAACCA | AATCCGTCCC | NCTTAACCAC | CNTTTCANGC | CNTCACTTGC | 780 |
| | ACNCTGNCCA | CACNCTTCNC | GGTTACGTCC | CAATGCCGTC | TCCCCNNGGC | GCTTAGCNCG | 840 |
| | GCTCGT | | | | | | |

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1261RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCATAAAC | GAAGAAATTC | TAATTAACAA | TTTGTCTGCG | ATGTACTTCC | TCAGTGAGAA | 60 |
| | ATAGCGATAT | AATCAITAGA | AAGCTTCCCC | GAGCACTTTA | GCAGCACCGC | ATGCCAGCAT | 120 |
| 5 | AACCCCTGG | ACTCAGGGCA | GTATGCCGGC | TGGCACCTCG | GCACCTCATC | GCAGGCGAGA | 180 |
| | CAGTCCACCA | CTGCGAGCAC | CGTAGTATTT | ATACTTTTCC | AGGTTGAAAA | ATTTTCGACC | 240 |
| | GCCCCACGCC | GCAGAGGGCT | GGACGCGCAT | TAGGGCTCAC | AGCGGTCCAC | TGCCACTGCT | 300 |
| | GCCCCAACAG | CGCCGCGCAT | GTAACGTGAA | ATGATATATT | ATACCTTCTG | ACTACAATGT | 360 |
| | GAAATATACA | AAGGTGGCTC | ATAGGCGCAT | TGCATTTATT | CAGACGCAGT | AGCTCTGGTG | 420 |
| | TAGATAGCCT | GCTTGGAGTG | CTTGGAGATT | GGCTTGATGA | TGCCCCGGT | CTCCAAGTGT | 480 |
| 10 | CTCAAAGCAA | CTCTGGCCAT | GGAACCGCCG | ATCTTCAATC | TGTCGACCAA | CACGGACACA | 540 |
| | GAGACGTATC | TGTAGGTTGG | GACCTCCTTT | AGGATTCTGT | CAAGCTTGTC | CTGGTCCAAG | 600 |
| | ATGACGGCGT | GCTGGGCGCT | GTCTTGTGG | GACTTCTTGG | ACCACTTCTC | TTGGACTTCT | 660 |
| | TACCACCGGC | CATGGCGCGC | GCGCCTTCTG | GGCCTTAAAN | ATNTTGTTF | TGGTGCATAT | 720 |
| | ACNGTGTGCC | CNTATACTGT | CCGCACCACT | GGCNTCTCTG | CGNAGGGTGG | TGAGCTTCCG | 780 |
| | TACTCCNCCC | CCTACCCNCC | CCCCCNNGNT | TGTCCNTTTC | NNCNNNNCCTA | ANTCT | |

1261UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCAAC | AACACCATT | CATCGCGAAG | TCTTTCCAAT | TTCTGTTCTG | GAATATTATG | 60 |
| 20 | AGGAAGTTTG | AGAACGATAT | TGGGAGCGAT | GATGAGGAAG | ATCCCTTCCA | GATCAACGAT | 120 |
| | TTGGACGAGG | AGAAGACCTT | GCGCATGCTT | TCTAACCAAG | CCTGTTCTT | CGGCTACCTG | 180 |
| | ATGGCCGAAG | GTCAGGTAA | GTTAGATGTT | TTAAAACATG | TATCCATTAT | GGGGTTGAAC | 240 |
| | TCTGACGGGA | GACTTTTCCT | AGAGAATCTT | CTATTTCACT | TTCTGTTGGC | CTCAGCCAAA | 300 |
| | AAAGCAGAAA | CTAAAAAGAA | GGTGGGGAAT | ATCAAGGAAT | GGTCTTACAG | AGATGACTTG | 360 |
| | TTGCAGGGCG | CCCTGTCCGA | TGGGATCCAG | GCCGAAAATA | AAAAGATAAT | CTGCAATCG | 420 |
| 25 | CTCAGGATGT | TTATGAGGAA | TMTAGATAC | ACGAACATG | TTCTGTTGTA | GCCTGGCTCG | 480 |
| | AAGGAGTATC | AACGTGACAT | GAGAAGGTTG | GACTGGGCGG | TTAAGCGTTT | TTTGGAACTT | 540 |
| | ATAGATGAAG | AACTGGATAG | TGCAGATTGT | GAAGAGCTTC | TTGTCACTAG | TCTGAATGCA | 600 |
| | TATTACGTGT | AACATTGAAC | ATACGTACTC | TATATTAAAG | TGGTGAAAGT | GATGAGAGTA | 660 |
| | TGACGTCCNT | GCTTTTATTG | CATACCACTT | NTGAATTACA | GTTATTCGGT | GAATGACNAC | 720 |
| | AAACANGTTC | CATTACTTAC | TTGTTGACNT | CGCCNCGACC | ACCACCCGCG | CCACACCTTT | 780 |
| 30 | GTTTACCTTA | TAAAAATCTC | CACNTCCGNC | GTATANAGCC | TNAANAATTC | NTTCGCTCAT | 840 |
| | GCGGTTTTGA | CN | | | | | |

1262RP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| 35 | GATCTTTGCA | CACGCTGGTA | ATGTTTCCCA | CTAACTGGTA | TTTTTCCTTG | TCTAGATAGT | 60 |
| | CTGCCGTAA | GACTCCCGAC | GTGATCGGCC | GGGCACGGAC | GCCCCATCGC | TCCAAGGCCG | 120 |
| | TCACAAGTTT | CAGGTTCTGT | TCCAGAAAGC | ACTCGCGAAC | TACTGTCTATG | GTCACAGGAT | 180 |
| | CAGTTACGCG | AATTCCTTCT | ATATATGAAG | GCTCGATACC | CTGAGCCTCC | AATTTGTTAT | 240 |
| | TCACCTGCGG | ACCCGTGCCA | TGCAGCACAA | TCCGATAGAG | CCCCACATGG | TACAGGAACG | 300 |
| | CCAGGCATGA | AGCCAGTTCC | GGCAAGTTGT | CGCTGATGAT | GGCACCTCCA | ACTTTGATAA | 360 |
| 40 | CCGCGAATTG | CTGCTCCGAG | ACGGAAGTAA | AGTACTTCAG | GTACTGTCT | ACTTCACGCT | 420 |
| | TAGAGCCAAT | ACTGTTGAGA | AGCTGGATCA | CGGTGGACCG | TGTCTGCAGA | GACCCAACGC | 480 |
| | CCTCGTTGTT | CCCGGTTCTT | GCATAGTTCA | GCTTCTTTAT | AGCGGCAGTG | CTGAACAATT | 540 |
| | CGCGCTTGTA | TGCGGCACGG | ACAGCCCATG | GCGTCCGGTT | TTAGATCCTG | CTACCAGCGA | 600 |
| | AGCTCTACTA | AACAGTAGAG | AGTGCTCGCA | AGCATCTTGG | TACTCCGTTT | ATCCCAGTCG | 660 |
| | CGCGAGTTCT | AGCTCTCGAA | AGCAGTCCGT | GTGGCTTATA | GCCTAANTTC | TCTTCGGTTC | 720 |
| 45 | CATAACCACA | AACCGTCTCN | TTGNCNTTCC | TGANTTTCAA | GACCCCNANA | TTTTTACAAT | 780 |
| | TTNTGCATTT | NTCCNGNGNA | AGGGTGCTAT | TTATTTNTTGC | ATNCNTTTAA | A | |

1262UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCACAAGC | TTGTTGAAGC | CAACTGCTGA | AAATGTCTCC | TACGAGAAGA | AACGATTCTT | 60 |
| | TCCACTAGGA | GACGTGTGGC | AAATTTTAAA | AGGAGCCAGT | AAGACGCAGA | CTAGCCCCAG | 120 |
| | CAGAAGCGCC | AGTAGTTGTT | AGGAAGCATT | CCAGAGCGTA | TACGACACTT | TGAAGACGGA | 180 |
| | CAGCGTTTCA | AGAAGACAGA | GACAATCAAC | ACCAACAAA | CATGGAGAAT | CCTCACGTAC | 240 |
| | ATGATAATTT | ACAACACATC | CAGGCGGTGT | TATCGAACTA | CGACACATCG | TTTCTCTCGG | 300 |
| 55 | ACGATGAAGA | GGACTACTGT | CCGCTCTGCA | TGGAGCCTTT | GGACATCACC | GATAAGAACT | 360 |

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|----|------------|------------|------------|------------|------------|------------|-----|
| | TTAAGCCGTG | TCCGTGCGGG | TATCAAATCT | GTCAGTTCTG | CTACAACAAC | ATCAGACAGA | 420 |
| | ACCCGGAGCT | AAATGGGCGG | TGTCCTGCGT | GTCGGCGAAA | TATGATGATG | AGTCGGTGGA | 480 |
| | GTACATTGTT | TTGAGCCCCG | AGGAGCTGAA | ACTTGAGCGA | GCGAAGCAGG | CGCCGAAGGA | 540 |
| 5 | GCGCGAGCGC | AAGCAGCGCG | AGAAGGAGCG | AAAGGAAAAC | GAATATGCCA | CCGCAACATC | 600 |
| | TCGCCGGCAT | GCGCGTTATC | CAGAAGATTG | GTATACGTTA | TTGGCCTGAA | CCACCCGTAC | 660 |
| | CGTACGAGGA | GGTTGGTGCG | CTGTTGCGCT | CGGACAGTTA | CTTTGGCNGT | TNCGGGANAT | 720 |
| | TTACNATCN | TCCGTGAACC | GCAAAAGGCC | CCATGACCCC | NACGGTNTGG | ATNTNTTTCC | 780 |
| | TTCCCNAAA | AAGAGCGGCC | CRNTTNCGGC | GTGGATGTNT | TTTNTGANGG | CGNGGTGAGG | 840 |
| | GGGTACGACC | NATNTGCCTN | TTTTTG | | | | |
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1263RP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCGCGCCA | TTCGCTTCTG | AATGGTTCCT | CACAGAAGGA | TTCGTCTACC | AATGGCATT | 60 |
| | GTTTCAGCGAG | GTCTCTGCTA | CTAACAGAAT | CGTCTTGTGG | AACTCTCTTT | AGGAAGGTGA | 120 |
| 5 | ACAGTTCATC | TATCCTTTCA | AAATTGATAC | TCTGAAAGGG | TTCATTTGCG | GCGTTAAACA | 180 |
| | TACTAGATGC | AGTCATTAGG | GCGGCACTTT | CTTGGTTAAT | ATCGTCAGCT | ATCCTTTTTA | 240 |
| | GTGCTTCTTC | CTCATTTTCA | TTGGGCTTGA | ATAAACCTCT | AGCTATCAAA | AACTCAATTA | 300 |
| | GTATCTTCCT | GACCTTAGTA | GTTGGTCCGT | CTGTGGGCCT | AGTCATACTC | ATTAAGTGAT | 360 |
| | GACGGAGCTT | TTGCACACCT | TTGCCAGAAA | ACACACAAAA | TATTTGACGT | TGGTTAACGG | 420 |
| | TAAATTCAC | AGGAGGAGGT | CTGCAAAATT | GTGTGATATC | TGGCCTGAGA | AAAGAAGTAC | 480 |
| 10 | CGCAGTCAAT | GACAAATGAG | AGAGCTTTGG | ACAAGCCATT | ACCAACTCAT | ATATTGGATA | 540 |
| | AATAGTCAAA | TTAGTACAAT | ATGATAGGTG | AACTCTTTCC | AATGTGTCTAT | TCCTACCACG | 600 |
| | CAAAGCAATC | ATATTTAATA | ACCTCATCTG | TCATCTGAGA | ACATTCACCA | ACCCATCTCT | 660 |
| | TTTAGTTTGT | TAATTCCTCA | ATCATATAAG | TATGAAATTGT | CCATTTTGTA | CACAACNATC | 720 |
| | CNCTTCTGAT | CNNGGANATC | CTGATTCAAC | CTTATCCCN | CCCNAAATGA | ACNTGGCCAA | 780 |
| | NGANATTNTN | GTTTPTCCCN | CTTGAAANCT | CNAAATNCAT | ACCCCGCTTA | CC | |

1263UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTAAAA | GCTGGCCTCC | GCAGATAGAC | CTTCTGCGCA | GAGGCTGGAA | ACCTCAACTA | 60 |
| | GCAAGTCGCC | ACCCGAATCA | GATAAGCACT | AGAGTCGTTC | CAGTAACAGA | GGAAGCGATC | 120 |
| 20 | AAGGAAGATA | GTAAGAAGAG | ACACTGCTGC | CAGGCTTGAT | CGGACAGAGG | GTTTAGCTTT | 180 |
| | CTGTTGAATT | TTAGAGTTTC | GCGGCTTTGT | TTACTTCGTT | TCATTCTTTC | GTGTAAAGAA | 240 |
| | GCTGTTTGCA | GGCTGCCATC | ATTTGCCAGT | CGCCAGGTAG | GGTATTGCAG | GGCGACGGAG | 300 |
| | TCGGTGAAC | AGAGCAGGAC | CGAGAACGCC | GATAGACAGG | CGTTTGTGTG | TAAGCGGTGA | 360 |
| | GAGCTGAAGC | AGGTCAAGAG | GCCGGCTTGG | GCAGGTTGTG | CGGCGGCGGC | AGAGCACAGC | 420 |
| | AGGGCATCCG | AAGAAGCGG | AGCTGCGGA | CAGGAGCGCA | GGCGCGCGAA | CAGGGGGGTG | 480 |
| 25 | TGATGACGAG | CGAGACGAAC | AACAACAACG | CGGCGAGCTC | GAACGGCGGG | CAGCTACCGC | 540 |
| | CATCGGGGCT | TCCGGCGAGC | TGGTTTACGA | CGCCATTCTCT | GCGCGCTCGA | CCACAGACAG | 600 |
| | ACAGCAGTAC | TCCAGAAAGT | TTCCGCGAGC | TGTTTTCGCG | TGACGCCAGC | GCGCCAGAAC | 660 |
| | TATTTTTC | CTTACCAACC | GGCCGNAATG | CCCCCACTT | TNTTGNCCAA | ANACCATTTT | 720 |
| | TCNCCAGCN | CCNCCCTTNC | TAAAACCATT | TCTTACNGGG | NCGAATGAAA | TGGGTTGNNT | 780 |
| 30 | TTCCCGCCCC | NGAGAACACA | TTTPTCCNCA | CTGTGACCCG | ANTANTTANT | CTCCCNAA | 840 |
| | TTATTTTTTC | C | | | | | |

1264RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTCGTTT | TTGTAATGCT | CTAGCTCATA | TTTGTGTAAG | GAGAAGGGTG | AAAACAGCTC | 60 |
| 35 | CGAGGCTGCA | ACTACTGCAA | AGAATAAAGA | GCAAAATATG | GCACATAAGA | TGTCTTCCCA | 120 |
| | ATTCAATTTGG | TACAGCTCTA | ATACTGTGAA | CCCTTAATCT | CGGGTAGGCG | CAACAGTTAT | 180 |
| | GCGGCCAACC | ACGTTAACGT | GATAATGATG | TAGGTACCCC | GGTGAAAAAA | AGAGTATGTG | 240 |
| | GAACCGCCCA | GCTGAACCAA | GCGGATGAGA | CATGCCAACC | ATATCCAAGC | ATACTTGACC | 300 |
| | ATGATGACGC | AAAACATATCT | AGCATAGTTA | GTCTTGACGC | TGAGACAGGC | TTCAATCGTA | 360 |
| | AACCTCCAC | CTTCACTATT | GTACAGTGAG | AGGCAACATA | ATTGATCTTG | TGACTACCAC | 420 |
| 40 | CCATACATTT | TGCTACCACC | CATACATACT | AATTAATGGG | GAAAAATAGCG | GCTGGTACAG | 480 |
| | ATTCTTGCA | CTCCCTGCC | CAGAGGGCCG | CGGGCCTCTC | GTTCCCCAGC | GCGCGCAGGC | 540 |
| | GGCCGCAGGC | CGACTGTCTT | ACTACGCTCT | CCCTGTGTC | CCGTGGTTAC | CGCGCCTCAA | 600 |
| | ATTACCAANC | CTCCAATTTT | TGANATTCCC | CGACAGTTNT | GTNCCNTNTT | TTTACCCCAA | 660 |
| | TTCCGGAAAT | TCCCTATTAA | ANGGTAAGAC | CCNNNTTAC | TTTTGTGGAN | TAACCTNNGG | 720 |
| 45 | CGTNCPTTNG | GGNNTNCCCT | TTNTTACNGG | CCCNNTTCA | GGCCTTTTGG | TTCCCTAAAA | 780 |
| | CCGGTNAAAA | AAAAAAGAT | T | | | | |

1264UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCATGT | ATCACAACCA | GACTATGATG | CGACTTGGGG | TGACTATGTC | TCCTTTGCC | 60 |
| 50 | AGCGGTTTCA | AGAACGAGTG | AAAGACAAGG | ACCTTATTTT | GATCGACTCT | GGTGACAAAC | 120 |
| | GTACCGGTAA | TGGTCTCAGT | GATCTCACTA | GTCCGATGGG | TTTGAAGTCA | AGCGGTATCT | 180 |
| | TTAACCTTCA | GAAACTTGAC | TTGTAACTC | TCCGTAATCA | TGAAGTGTAT | ACGGAAGATG | 240 |
| | TGGTTCCGTT | GGAATACTAT | GGAACAGCAA | TGGAGCCTGA | GCTAAGTGAT | AAATATGTCA | 300 |
| | CAAGCAATGT | GGAATTTATC | ACAGAAGATG | GGGACGTTGT | ATCCGTTCCG | CAATAAATAT | 360 |

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|---|------------|------------|-------------|------------|-------------|-------------|-----|
| | AGGTACTTTG | AAACGCCAAA | CCAGAACTCTA | CGTGTATTGG | CGTTCCGCATT | CATGTTTCGAT | 420 |
| | TTTCCCGTGG | GCTGCTAAAA | ATGTTAGGTT | AACCCCTCTG | GCCGAAGAGG | TTAAAAAGGA | 480 |
| | CTGGTTCACC | CAAACTGTGG | AAAAGTACCC | GCTGACAAGC | TTGATATTAT | AGTTGTCTTC | 540 |
| 5 | CGTCATTTAC | CAGTCACCCG | TGGCGAAACG | AGAGCTTCTG | CAGTTACACC | AACGACTAAG | 600 |
| | GGAATCTTAC | CCCGACACTA | TTATCCCGTA | CTTCCGAGTG | NNTACTCAGT | CNGAAANTCC | 660 |
| | CTNGTTTTNG | ANAAAACGAN | TGCTTTACCA | ACGGCGAAAT | TCCTGAAACA | TGGAAATCCNA | 720 |
| | TCAANANNG | TTTCNCAAGA | AACCAAATTT | TCCATTGNAT | ATGACTTACC | CAATTCCTTT | 780 |
| | TCCCTCCNG | NTTNANACTC | CAAATTCNT | CCAAGGAAGA | ANANTNACNC | CC | |

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1265RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGCTC | AGAAATAACT | TGCATTGTCT | CCACTATTTT | CTCAAGATTA | GCATTTATGC | 60 |
| | ATGTCACTAG | GCATTGCGTT | TCAGGTAATG | CATTCCCAAC | AAGTGGCTTA | CGATCTGGAA | 120 |
| 5 | CAGATTGTGT | TCTTTGTGAT | TCTGGTGGAG | CCGTACCTCC | AAAAGTTGAA | TCTTCGTTTT | 180 |
| | CCGCCGAGCA | GGAATTGCAT | GGACGAGACT | TCTTGTGAGA | CATAAACTCA | AGTGGCGCCG | 240 |
| | CTCTATCTGA | CATATCTTCC | TGACTCTCTT | CTGCATACGT | GCGGTACCT | GGCTCTAGTT | 300 |
| | CGTCCTCAGT | CCCTACGTCT | CTTCTTGCA | GCATATCCCT | TGTCGTGAGA | TATGTTTCTC | 360 |
| | TCTTCGGGCT | AGAAGGGTCC | TCATTTGTAG | GATCTTGAAC | AAAAAGTAGT | TTGTTATTCT | 420 |
| | CCAGCTGCGC | AGTCTCTTCC | AGGTTTTACT | TCCGATGCTT | ATTAATACTG | GTTCTTTAGA | 480 |
| 10 | TGGTTCCCTG | ACTTTGGCTA | TAGGCCATTG | GTTCCGGCGA | CTTGTGAAGG | TATGCATTGA | 540 |
| | GAGTCTCCT | GGTTAAACGT | GTNGTCCCC | CGTTATTTTA | NCACGGCTTG | GCCGGAATGG | 600 |
| | TACACNGTIG | AGTTAATCNC | NGCGGGTTGC | NGTTCCATCC | TGTGGGGGGC | CCACCCAGAA | 660 |
| | CCCNAACTTN | GGCGCCACNA | TTTCCNCTCN | CCAAACNMTT | TGGCCNAAAA | AANAATTNTT | 720 |
| | CCCCCAAGGN | NGGANNACGC | ATACCCCGAN | ATGNGGTATN | TTGTGGGGGN | AACCCCNNA | 780 |
| 15 | ANCCCNCCC | CCCNNGGAA | | | | | |

1265UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGGTCG | CCGCTGGTGA | AGGCAGCGAC | GTCGTTGTAC | CGGCAAGGCG | GCCTGCGCGC | 60 |
| 20 | GTCTTACCTG | GGCAACGGGC | TCAACGTCA | CAAGGTGTTT | CCGGAGTCGG | CGATGAAGTT | 120 |
| | CGGCTCGTTC | GAGCTGGCGA | AGCGCGTGCT | GGCGGGCTTG | GAGGGCTGCG | GCGAGACGGG | 180 |
| | CGAGCTCTCG | CGCCTGTGCA | CGTACGTTGC | GGGGGGGCTT | GGCGGCATCA | TGGCCGAGTT | 240 |
| | CTCGGTCTAC | CCAATCGACA | CCTTGAAGTT | TGCGATACAG | TGTGCGCCCC | TGGATACGCG | 300 |
| | CTGCCGGGGT | CTGCCGCTGC | TAATCAAGAC | GGCGAAGGAC | ATGTACCGCG | AGGGGGGTCT | 360 |
| | GCGACTCTTC | TACCGCGGCC | TTGGCGTTGG | CATTTTGGGC | GTGTTCCCCG | TACGCGGCGC | 420 |
| 25 | TGCACCTCGG | CACCTTCTCG | GCCCTCAAAC | GCTGGTACAT | TACCCGTGCG | GCAAATGCGC | 480 |
| | TGGGCATCTC | CCGAGAACGA | AGTGGTCATG | AGCATCTCCG | TGTGCTGCCG | AATGGCGCCT | 540 |
| | TCAGCCGTAC | GTCCGCGCCA | CGTGTCTACC | CTATCAACCT | TCTACNGANG | CGNTCCGAGC | 600 |
| | CCCAGNAGT | TNTCNCCCC | CCCTCCTACA | ANGNTTCAAN | TNTTTCGGAA | AACACCNCNN | 660 |
| | AGGCCCCCC | GCTTTTACAA | GGTTGGTTCC | NACATTGCCA | GGTNCCCCNC | ATCCCACNCT | 720 |
| 30 | NTTTTTTTNC | NAAANTTAAA | NNCCANCCCC | CCNAATAAAG | GCCCCCTTNTC | CCCCCNACCC | 780 |
| | CNGGAATAAN | GGTTCGGNCT | NNAAAACCAA | NACNCCCCC | | | |

1266RP

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|----|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| | GATCTTATCT | GGAACACCCA | TTTATCTGAA | TATTTCCGCT | TACTAAATTT | 60 | |
| 35 | TAGTAACCCCT | GGGCTTCTCG | GTACGCGGGC | ACAATTTAGG | AAAAATTTTCG | AAATACCCAT | 120 |
| | TCTACGGGGT | CGGGATGCTG | ATGCTACTGA | CAAGGAGATC | GCTGCTGGTG | AGGTGAAGTT | 180 |
| | ACATGAGTTA | TCCCAGATTG | TGTGGAATTT | CATTATCCGG | AGAACCAATG | ATATCCTATC | 240 |
| | GAAGTACTTA | CCTTGTAAAGT | ACGAACATAT | TCTATTCTCTC | AATCTCTCTC | CGATGCAAAA | 300 |
| | GGCAATTTTAC | GAACACTTCG | TGAGGTCACG | AGAGGTTGCC | AAGTTAATGA | AAGGTACAGG | 360 |
| | GTCCGAGCCA | CTGAAGGCGA | TAGGTTTGCT | GAAAAAGTTA | TGTTACCACC | CTGACCTGCT | 420 |
| 40 | AGATCTCCCG | GATGAGATCG | CCGGTTCTAC | AAATTTAATT | CCAGATGACT | ACCAGAAGTG | 480 |
| | CTAGTGACAC | ACACTCCGCC | GCCGAAGAAN | TTCCCTTTT | GNATTTCCAAC | GANACATTCC | 540 |
| | ATCNAAATTT | GCNATTCCTA | GAACGTTTTC | NGTTTTPAGAA | TCCAGCCNTG | ATTCTNAATGA | 600 |
| | AAAAAATGTC | CCNGATTTCT | ACNNCCCCC | ACCTTGGAAT | TNTTCCAAAA | AATNTNNCCN | 660 |
| | CCCNCCCCCN | GGTTTNTTCC | CANCTGAANG | NNCCCNNGNAA | ATTAANNANC | TTTNAACCTT | 720 |
| | TTGAAAATTC | CAAAACCCCC | GGGAGAAATTT | NTCNTTTNTT | TCCCCNNGGN | CNGGGNNGGG | 780 |
| 45 | NTCCCCCTTT | NGGCCCCCGG | NGAANTTTGA | CCCCAAAGN | | | |

1266UP

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTGTCTAG | CATTACACAGA | AACCATCGCT | ACGAAAAAGTT | TCCTACAAGT | AATCCCAGCC | 60 |
| 50 | AGCCGAAGGA | CTCCCCGTTG | GGTCTGTAG | CCGTCTTGCC | AGCGCACAGT | TTCCAGGACT | 120 |
| | TGTCTTCTGT | TGGTCAGAGT | ACTAGGCAGG | ATGCGTTTGC | TTATTCCAAT | CACAGTGTG | 180 |
| | TGGCTAATGA | TGCCAGGCC | TCTTTACCGC | GAAACCTTGC | CCCAGACTCC | ACGTTCACTG | 240 |
| | CGGAGTTTAA | CCAGCTGCTA | TCTGAATCCA | GCAACTGCCT | TGAGCTTGAT | TCTATATTCT | 300 |
| | CAGGCAACTC | AGTTCTCTGG | AAATGCGAGA | CCTTAACCCTC | TGAAGCAAGA | GCTACCTTCG | 360 |
| 55 | AGGGCGATGT | GCCATCTGTC | TCCGAAGATG | CCCCGCGACGA | CAGCCAGGCA | AATTCTGCAC | 420 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | AGAATGGCCT | GAAGTATTGA | GTCTAGCGGA | CACTGAGTAT | GCGGACCTGG | ATAGTTTGAT | 480 |
| | CACTAATTTG | TACTTCTACC | ATGOGAGGGT | TCGTCCCGCG | GGTCTGAACG | TTTTGTTATA | 540 |
| | ATGATCGATT | TTAGAAAATA | TAAGAACCCC | CTTGAATATG | AATACNGNCN | NTTAACCCCC | 600 |
| | GCGGGTTGCT | GATACCCCCC | CTNTCCCCCN | CTNGGNTGAA | TTNTTACCCC | NCGGNGGGGN | 660 |
| 5 | GANAAANAAT | TCCTGCCNNC | TTGGGTTCN | AANCCCCATT | CCCTTTNNA | TNAAAANTGC | 720 |
| | TTCCNNGNCN | TNTTAAAAAA | AAAAACCGTG | TTGCCCCNAT | AACCAAATCC | CCNCGCANGN | 780 |
| | AATTCCTGG | GTTCAACANC | CGCTCAC | | | | |

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1267RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCATTCC | ACCGGATTGC | AGCAGCTAGT | GCATTTGGCC | ATACGCCCGA | TTGCCCTTTC | 60 |
| | TTATAATGAA | TCCCGGCTTG | TAGAGCATCA | TCCGGCACTT | CACGTGGTAT | TGAATAGCTC | 120 |
| 5 | CTCATAACCG | CACCGGAAGA | TPTCAGGAAT | ATATCTGGTT | GTGTAGTGTA | GAGGTTATCA | 180 |
| | CTGTGGATTG | TGATATGGCT | GTTGCAGCTT | GAACATTCCA | CTAACCTCGG | TTCGAATCCG | 240 |
| | AGCACGAACA | ATTTTPTGNC | TNAANCCNA | NATTTTNNCC | CCTANAATAN | TGGNCTNNCC | 300 |
| | AAAATCNTCN | NMTTTNAATT | TTTTCCAAAA | CTTTGTCCGT | GACCGGANTN | GAAATGNGGG | 360 |
| | NAAGTGGAA | GTCCAAGNCG | GGNNCGCNAA | ATTAGAATTC | CAGGGAAAAAT | TCCTACANTA | 420 |
| | NANAGGTGNC | ACCCNCGGNA | ACCCCGGGGN | GGNNNNACTG | GNCCCTTTNA | ACCTGNGAAT | 480 |
| 10 | GCGGTINTCC | AACCTTTTNC | CGGGNGGCTT | GGCCCCCN | TTAATNCNAT | TACCCNCCCC | 540 |
| | TNCTTTTCCC | NAAANNGATN | CCCCCCNCG | GAAAGGTTCN | TTNNNNANCN | TAGGAGGCCC | 600 |
| | CTTNGGTCCG | GAATTNGNNN | CCTTTCTNNC | TCCCCCCCCA | AATCCNGGAC | CCTGNAANNC | 660 |
| | CCTTNTNCCC | CCCNITTTAC | NMTTTTCCNN | GNAANTNCTT | CCCTTGCCCC | ATCCCCGGAC | 720 |
| | NNNAATTGGG | GNTTTAANGG | CCCCCGGNC | CCCCNCNTGN | AAAAAGNTNN | GGNNCCCCCC | 780 |
| | CCCCCCTTN | GN | | | | | |

1267UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCGCATC | GTTTTGTTGA | GTCATACTAC | CTGGACGCCA | TGTTGCGCGA | GCTGGCGCCG | 60 |
| | CCGGCGAGTC | TCCGGTCACT | GGTCGGCTTG | TGCAACGCGG | ACTGTGCCCC | CTCCTACTGG | 120 |
| 20 | TTGGAGCTAC | CCAAGGACCG | TATCCTGTTC | CTATGTGCGA | TTGCGAACCT | CGTAATCAGC | 180 |
| | CACCTCGTGA | ATGTAGACCC | AGCAGCAAGG | GACATGCAAG | CCTTCTGGGA | GAAGGTGAAT | 240 |
| | GCGCTCTTCT | TGGAGAACGG | CTCAGGGCGG | ATGCTGCAGA | AGGAGGCTTT | GGTGCCGCAA | 300 |
| | CCGAAGAGCT | GCGAGAACGA | TGCGCGCGAG | GCGAACGTTT | CTGCGTCCCC | GATTTCCCGT | 360 |
| | TGCGAGACAC | AATACACATC | GGACCAGGGC | AGCAATTACA | TGAACCCGCA | CGCATTCCGC | 420 |
| | ACGGCGGGCC | ATGCGGCGGG | CACAGGCGCC | TCGTCTGTGG | CGCCTAACAG | CGACACCTTC | 480 |
| 25 | TCGTGTCGAC | TGGCTTCACA | CAACGCCTGC | GCCCCAGAAG | CGTCGCGCAG | ATTCCATACC | 540 |
| | AGACTTGCTG | ACGCAGCGTC | GAGGACGCCA | TCAGACAGGG | AGCTTGCTGC | TTTGACCAGA | 600 |
| | AGGGCTTGAG | CAGGATTCCC | AGGACGACAC | GACCGCNCCT | TAATGCAACT | GTTGTCTTTC | 660 |
| | CNATTTGCGC | CCTATCCCCC | AATGGAACGC | CACCTCCCN | AAAAAAAAAA | AATTTTCCGN | 720 |
| | TGGATATTG | ATGAATTGAA | TTAGAAAAAT | TACNTTTCTN | NNATTCTTGC | GGTGCCACAA | 780 |
| 30 | CAATTGCGAN | TNCTAGACCC | GCGNCCTGGC | NTTNGGTTTT | AAAT | | |

1268RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCTGAGA | ACACTTTTTC | TGTGGAGGCT | TATCAATGCT | CTTTCTATCC | GCAGCTTCTT | 60 |
| 35 | CCAGGCAGAT | GAATACTGGC | AGTCGCTGGA | GCCTGCGCAT | GTTAAGGCGT | TTGGATATGG | 120 |
| | TGGGCTGACT | TGGGAGTGCC | AGCATGGGCT | GCGCAGCTAT | GCATTCCCCA | TGCTCTTTGA | 180 |
| | AATGTCGTAC | TATGTGGCGT | GGATACTGGG | TGTGGCCACC | CGGATGGCGC | TGCAGGGGTT | 240 |
| | GGCACATGCG | ACGGGCGCTG | GTGGGGCGGT | GGTGCCGAGC | GGCGCGGCGG | GCGTGGCCGC | 300 |
| | GATGAAGGCC | GTCTGGGAGC | TGCCGGAGGC | AGCGCAGGAA | CTGGTGGAGT | ACTACGGGGT | 360 |
| | TATTGTACGG | GCCGCGAAGT | GGTGATGGCG | GCGGTAGCAG | CGTTGCGGGA | GTTCTACAGC | 420 |
| 40 | GTGCTGCTGG | TTGCGCAAGC | TGTATCTGCG | AGTCGCGGAT | AAGGGGGACA | CCAGAAGGGC | 480 |
| | GACGCGCGCC | GTCAGCCGTT | GCGCTGATGC | TGACCATGAC | AACTTCTTCA | ACTGTTTCTT | 540 |
| | CGCGACGCGA | ACGTTTATCA | CTCCTTCGAG | ATGACGCTCA | CGCGTCCGCG | TCTACCATTC | 600 |
| | ATTGAACGGG | CCTCACTTGG | TTCTCTNGCT | TCNCCCAACT | TGCGGTGGCT | CTTTTGCCCTG | 660 |
| | CCTCACGCCA | NTACTTTTFA | TCTGGCNCCT | TGCTNTTCTT | GGTGNGANCC | TGTTCCCCCN | 720 |
| | ANNGTGNCN | CCTTTTAACC | CGNCCCAAGT | TGCCCGGAGC | CCCTGCGGTN | TTTCAATCCA | 780 |
| 45 | ANNANNC | | | | | | |

1268UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCAGGTA | TACCCGCTTC | CGTCGCGCAG | CGAGCTGCGC | AGCCGCTTCA | TCGCTGCAAC | 60 |
| 50 | TGAGAAATGCC | CTCGACCTGA | TGTGCGGTAT | GCTGACGATG | GACCCGCACA | AACGGTGGGA | 120 |
| | CACGACTCGT | TGCCGTGCTCA | GTCAGTATTT | TGTAGAGCTT | CCGGAGGCGA | CACCTCCTAC | 180 |
| | GGAACTTCCA | AAACTAAATA | AGTAATGACT | ATGATAACCT | AGATGGTATA | CTCGGACGTT | 240 |
| | TTGTGTTTGT | GCTTTGAGGC | GATGACATTC | GCTTTTATGG | TATCGCAGAC | GTTGCGTGAA | 300 |
| | AAAGATTCAA | CGTCTCGGTA | ACAGATTTGC | GCAGACTACT | TGTTGAAAGA | ACAAAGACCA | 360 |
| 55 | GAGCGCTGGG | ATGCTCACCC | CAATGACGAA | CCCACTCCGC | CTTATTGGCG | CTGGCTGCAG | 420 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| 5 | GTTCCCTTAGC | ACCAACAATA | GGCCGCCACT | GCACAAGATC | TTTCCCTCCC | AAGAAGCTGG | 480 |
| | TGAACAGGAT | GCTGTTGAC | CTTGATAGCC | GACTGACCTT | CCCGGAAATT | ACTGCCTGTA | 540 |
| | TACGAGCAGT | TGTACACCCC | AATTAGACAG | TAGTACGGCG | ATTTGTAGTA | CCCCGCGCGT | 600 |
| | TGAGGGCGCC | ACGACGTTTA | TGATTCATGA | AAAGGTGCTG | AGAAGACTCG | CCCGCCAGAA | 660 |
| | CGAGAGCTCC | CATCGCCNTC | TACTTGCNCC | GGANAACAAC | TGCTTTACTT | GCTGCCCANT | 720 |
| | GGANACNAAA | ATGCACGNGC | NCTNCCCTTG | ANCCCGTGCA | CCGNTTCGCC | NAAGGNNGCA | 780 |
| | AATGAATTTG | CAATTTAGNT | CNGATTTTAC | NCTCTGGNTC | CCCCCCCCCA | CTGANNGANC | 840 |

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1269RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCACTC | TTGGCAAGCT | ATACGGTGAC | ACTATCATAG | CTCGCGGTGG | CCTCTACGAG | 60 |
| | ATGGAAGACA | ACCTGGGCGA | GTTCTTGGAC | AGAGAACCCA | ATAACGAGGC | GTACCTCAGA | 120 |
| 5 | GATCAGGGCC | TAGCCTAAAT | GCTCCTTCTT | TTGCGGGCCT | TCCTGCCCTC | CTATGTATAT | 180 |
| | TCCAGCTAGA | GAATCGCAAG | CAAGCCATAC | TTAGAAATAG | GATATTGTTC | CGGGAACACT | 240 |
| | GATTTACTGT | GCGTTACTGC | TCCGGAAACT | CACCTGTTCG | GTATCGAATA | ATTAGCGTTC | 300 |
| | GACTACCGCC | AGTGTGATGC | TTTCTTTATA | CCGGCATACT | AAAACAGGGT | CCTCAGTCGA | 360 |
| | ATCGTGTGTC | ACTGAATATG | AGCCCCCTCA | TGAGTTCCCA | TCGCGTAGAG | CGTCCTATGT | 420 |
| | GCAGACCATA | TCAACACCT | CTGTACACGC | GTGGAGTTCA | ATATACGCGT | ACGACGCACA | 480 |
| 10 | TACAATAGTA | CGTGTGCGCA | ACCGTTATAC | GAAGAGCTGC | GTTCTGATTG | CAGCATTTC | 540 |
| | CAAGCCCCGG | AAATACAAAA | CCGCATTTTT | AGCCCACTGC | GATAGATGTC | CTGAACCANG | 600 |
| | GAATTACANC | GAAGGNCGAT | TGCTACTACN | ANCATCANCC | AGGGCTCGNG | TATTTCTCAT | 660 |
| | CCATCCOCT | CNAACNAAAA | ATCCGGANTT | TTTAAATTTT | CATGCAAAAC | ATNCANATCC | 720 |
| | CCNPTINGAT | ATTNCCCAC | TGGCCCCCCC | NCCCCANNT | ANCNGTCGGG | ATCCNGNATT | 780 |
| | CCCCGGT | | | | | | |

1269UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCGAACTC | CATGAAGGAG | CGTAATGGCC | TCGTGGAGCT | GCACCGCACT | GGGTGCGTAC | 60 |
| | ATAGCGGGAT | GTAGGAATGC | GGGGATAACG | ATTCCGAAAA | GCTGACTGGG | CTGCGCCTCT | 120 |
| 20 | AGCTTCAGCT | CAAGCTGGCG | CAGCAGCGTT | GCTATAGGCT | GTTGTGGCGA | CAAGGTGAC | 180 |
| | ACTTCAGTTG | CAGTAGGAGC | AGGTAGCATA | CGACTAGTTA | TATCGAACTG | GTGCCGGTAA | 240 |
| | TGAGGATGAG | GGTCAATTTT | TGGCTCCGAG | CGCTGGCTAG | CACCACAATT | ATCACCAGAT | 300 |
| | CCATACCTCC | ATGCAATTCT | GAGATCTTGG | CTACGTGCGA | CCGGTTTTGC | ACCCCTCCG | 360 |
| | GCTAAGTTT | GCACCGTGAC | CTTCGATTCC | TCCTGGGAAA | TGCGAGATT | CTTTACCTCT | 420 |
| | TTACGTGTGC | CCTGGAATAT | CCCGGCGAGC | TCCTTCGCAT | ACTGAGTGT | GAGCGTGATG | 480 |
| 25 | ACCACCACAT | CGCTTATCCC | CCCCCCTGN | GGGCCCNAN | TTTCCCCCCC | GGTTATTTCT | 540 |
| | GTCCCTGCGC | CTGCAANAAC | TTCCANTTAC | GANGCAATCT | GGTCCCCCTG | TTCTTCCCCC | 600 |
| | AAAACATCTG | GGCCATTGGA | NCCCATATGC | CCTAGAACCN | ATCCAATCTG | CANCCCGNGA | 660 |
| | NTTTTGGAA | ANNAATTACC | GGNAAGGANC | AACCCGGAAG | NAAAGCCCGC | CCCCCTGTG | 720 |
| | GAGCCNACTT | CCCCCCCCC | NAAAACNGA | ANTTNNTTTT | TNNTTTGGCC | CNANCGNCCN | 780 |
| | TTTTCNCCCC | NGCCGGGGANG | GCCTTAAAAAN | TTTNTCCCCC | | | |

1270RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCATATGG | TGAACCTGGC | ACATACAGTT | GAATCATCCC | AATAGCAAAG | AGAACGTAAG | 60 |
| | ATTTACCTAG | CGCGGCATCA | CCTGGAATAT | CTAGCATTG | CAGCGCAGGT | GAAAAGAATT | 120 |
| 35 | TCCTATGAAT | TGATTGGAAA | TGTGGTTCCG | TGTGTTCCAT | TGCTAAGCCC | GCTAGTACAC | 180 |
| | GATAATCATC | ATTAGACTCA | CAGGTTAGAT | GGGCCTTCAC | TGTTGCCTTA | TACCAGTCTA | 240 |
| | ATAGAACCCTG | CCTGTAACGA | GCATATTGAT | CCTGAAGAAT | AACCACCGAT | GCGTCAACCA | 300 |
| | TCGAATTGAG | CAACAATGTC | GCGTCATTCA | CGGTTTGAGT | GATGTGACTT | CCGGTGAAAT | 360 |
| | TCTCAAAGGA | ATTTAATTTT | GGTATCAACC | CCTTCAACAA | GGAAGCTGTG | AAGATATCAT | 420 |
| | CAACATGCGA | TTTGTAAGCT | AAACCTTCCC | GCATCCATAG | GAAATCAAAA | GTGGCTGGGA | 480 |
| 40 | AAGCATAGTT | TGCGCTATTG | GCTTTGACTA | ACTGCCAAGT | TAGAATACTA | CTTGTGGGCG | 540 |
| | CCAGTTTGAA | TAGCAGAGTT | AGACATTCAA | CGGATTCTNA | GAATATAATC | CTNGCGAATT | 600 |
| | TATCCATCCN | CCTANAAAAAT | TNTTTCNCC | TTGATCCANA | ACNANAAAAAT | TCCGTTGACC | 660 |
| | NCTGAAGACC | TATTCCTNCC | TTTNAAAGAC | CTGCNCATT | TTCNATTTCC | CNAANGNNTC | 720 |
| | CCGTTCTACC | NAGAAANTTC | TTGCATGCCN | NCATGGTTTN | AACCNAAACN | TCCTTTGANG | 780 |
| | NTANTNACTT | CCCCNNCCC | AATTTA | | | | |

1270UP

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|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCGATTG | TCAAATTTTC | TGAATGGTAT | GGTAAGAAGT | TTGGGGCTGG | AAAGGCTAAC | 60 |
| | AGTGGTGTTA | TATCTTTGCG | TGATATTTTA | GCTTGGGTCG | AGTTCAATTAA | TAGTACCTAT | 120 |
| 50 | AAGGCATTGG | CTTGCCCTTA | TGCTTCATTA | ATCCATGGGG | CGGCAATGGT | ATTCAATTGAC | 180 |
| | GCCCTTGGAA | CCTCAACAC | AGCGTACCTT | GCCGAGAGTG | AGGAACGATT | AGAACACCAG | 240 |
| | AAGCAAGAAAT | GTCTCAAAATA | TCTGTCTGAA | CTAGCAGGAA | AGGATTTAAA | CAAATACATG | 300 |
| | TCTGGTCCAT | TCGATGTTAA | GATTGACGAT | GAAACTCTCC | AATCCGGGCT | TTTAGCCTA | 360 |
| | CCCAGAGTTT | CTTCCTCATC | TGTCCAACCG | GTTTTCAATC | TTGGCGCACT | ACTACAGCCT | 420 |

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|---|-------------|-------------|-------------|------------|------------|------------|-----|
| 5 | ACAATCTCAT | GAAAGTTGTC | AGAGCAATGC | AAGTACAAAA | GCCATCTTAC | TGGAAGGATC | 480 |
| | ACCTGGTGTT | GGTAAAAACCA | CATTAAATTTC | CGCATTGGCT | GACTGTACCG | TTACGAATTA | 540 |
| | CCCTTTTAA | TTATCCGAAC | CAACTGATTT | GAATGAATTA | TTTGGATCCG | AAGCNCCCCG | 600 |
| | AAAAAAAAAAN | GGNAATTTNT | TTTGNGTTGA | TGCCCCCNTT | TTTNAAACTA | TGCCAAAGTG | 660 |
| | GATGGTTTIN | TTTAAATAAA | ANNANATTGC | NCCCCANCCN | TTTTTAAGGN | CNNACCCTGT | 720 |
| | TTGTNNCCNT | GGNGAACCCA | NTCCCAAATT | TAANAAAATT | TNTCGCCCCC | ATCCGCTTTT | 780 |
| | TTGNTNCCCA | AACCCANACA | GGGNGGGTGA | AAAGGGNTGC | CAANCTTCCC | TC | |

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1271RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCATTATA | TTATAAAATA | TAATAAAGAA | TATATTTAAA | TAATAATAAT | AATATGAAAT | 60 |
| | ATTATATTAA | TTCTCCATTG | GAGCAATTTG | AGATTAGAGA | TTTATTAGGT | TTAACATCAC | 120 |
| 5 | CAATAATAGA | TTTTAGTTTT | ATTAATATTA | CTAATTTTGG | TTTATATCTT | ATAATTCTTT | 180 |
| | TATTAGTAAT | TTTACTAATG | AATTTAATAA | CTAATAATTA | TAATAAATTA | GTAGGTTCTA | 240 |
| | ATTGATATTT | AAGTCAAGAA | ATAATTTATG | ATACTATTAT | AAATATAGTT | AAGACACAGA | 300 |
| | TTGGTGGTAA | AGTTATGAGG | TTATTATTTT | CCATTAGTTT | ATACATTTT | TATTCTTATT | 360 |
| | TTTACTATAA | ATTTAATTAG | TATAATCCCT | ATTCATTTCG | TATAACTTCA | CATGTAGTAT | 420 |
| | TTGTAGTATC | AATAAGTATA | ATTATTTGAT | TAGGTCTAAC | TATTATTGGT | TTTTATACTC | 480 |
| 10 | ATGTTTAAAT | CTTTGTTTTAT | TTTACCACTA | GGTACACCAT | TAATTTAGTA | CCATTATTAG | 540 |
| | TATCCATTGA | ATTATATCCT | ATTTGCTTNA | ACTTATTCCA | TAGGTTTTTA | AAATACACTA | 600 |
| | ATATATACCG | GTCCATTTAT | AATGGTTATT | TAGNNGGTTT | AATATTNAAT | TNAAAACCAN | 660 |
| | AATATTTACA | TTTTATGGTN | NCCNCCCAAN | AAGGCATTGG | TTTGGTTNTT | TAAAAAGGCN | 720 |
| | ACCTATATCN | CCTANITGAT | NMTTTTATN | CCCCCTTTTA | AANANCNATT | TTNNCCTTAT | 780 |
| | TAAANTAAAT | C | | | | | |

1271UP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCAATCTT | TCGATCATTG | TCCAATATTC | CCCACTGCTG | TATCATATAG | ATATTGATTA | 60 |
| | TAATTTCTAA | ATCAACGTGA | TTGTTCTAAC | TTTAATTAAAC | AATTATGAAT | TTTTGGCTAG | 120 |
| 20 | TTATTATTTT | TTAATTAAC | AATACCTAAA | TCATTATAAG | CTTGACTTAA | AACAAATAAT | 180 |
| | TATTACATTA | TTCTTTATTT | ATTATTTAAT | ATTTAGTTAA | ATTTTAAAGT | CATTATTCTT | 240 |
| | AATTTTACT | CACGAGTACA | CCACTTATTA | ATACTATTAA | TTAATAATAT | TAACGTTTGA | 300 |
| | TTGCGATGTG | TAATGTCTT | AGTTAGCGCT | TAATCTGAAC | CAACATCATG | TTCTCATTAT | 360 |
| | TATTAACATAT | TTTTAATTAT | TTTAAATAAT | TATTTAATAC | GAAAGTTATA | GGATTCTGAAC | 420 |
| 25 | CTATGAAATC | ATAAAGATTT | ATAATAGCTC | AAATATTACA | CTTTAAACCA | CTCAGTCAAA | 480 |
| | CTTTCTTAAT | ATATATACCT | TATATATGGT | TTGATAATTT | ACTTATAATA | TATAGTATAT | 540 |
| | AATTTAATGA | TAACCTCTTAT | CATTTAGGTG | CGTAGGGTTC | ACCCCTCTAT | TGCTAGTCAG | 600 |
| | CATATGAGGT | ACCTCCCCC | AATGATAAAA | GTTATAATAT | ATAATATTAT | ATTAAGTATT | 660 |
| | TAAAGAANAT | AATATAATTA | TTTAATAATA | TTTTTATTTA | GGNNAATAAA | AAAAANTTTC | 720 |
| | ANNTTTGAAA | NANGGTGCNG | AGAATTANAA | AAAGCNAATA | ATATGTTCAA | TTTGACCCAT | 780 |
| 30 | TAANAATGTA | GTNCNCTGAC | ATCNCCATT | TCCTATANAA | ANTTTANAA | AANA | |

1272RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCAAACT | AGGTTCTCCG | ACGGCAACGG | TGACGAGTTC | GTGAACGCGC | TCAAGCTCTG | 60 |
| | TGGCTTTTTT | CATAAACACA | CAGACAAACG | CAATAAAATG | TTACAGAGGT | TTGAGTTCTT | 120 |
| 35 | CAAGCCTCCA | AAGGAGATCC | TAGAAGAACG | CAAAGCCAAG | CTCGAGCGTA | AGCAGAAGTT | 180 |
| | CATCGAAGTG | GAAACAGAGA | AGGAAGCTCT | AGAGTCTAAG | CGGTCGGAAA | ATCCAGAAGG | 240 |
| | AAACTGGCTA | CTAAAGCCAT | GTATATATAA | ACGGAGGTGA | TTGCCTAGTC | TCTTCTCAGC | 300 |
| | ATGCGATCAT | ACCTTATTCCG | TGTAATCTTA | TCAAACTATA | TATAGGGCGA | CCGACAGCTT | 360 |
| | CAACCGTTCC | TAAAAAAGGT | TTGGAAGGTG | AACAGCCGCT | GGATGTTCTC | CACATTCTGT | 420 |
| 40 | AATGTAGGCA | TTTGTGGCCA | TATGCTGCTT | GTCTCCGAGC | TTTTCTTGT | GGGCTCCCAT | 480 |
| | CTGTGCGCAG | GAGCGGAATC | CCGTACGCAT | TGTACCTGTT | ACCCTGCTGC | GAACAGCACC | 540 |
| | AGAAGAGGCT | GATAATTGTA | GTCNCAGCAC | ACCATAGACG | CCGAACAATG | CCCCAAGCGC | 600 |
| | AGTGCTGCGT | TAGTTTGAAA | TCCCAAAACA | CTTCGAATCA | TCCGTTCCCC | GGAGGCCCAA | 660 |
| | TTATCCGAAN | TTGGCTTTTA | AANTCCNAAT | ACAANGANTG | CGCCCCNTGT | CCCCGTGTACA | 720 |
| | TTGTGCCCCN | CCTAGGNNGC | CCACTCCNN | CNCGAANTTT | TTATTCAATTT | AATTCNTCNG | 780 |
| 45 | NCCCCNCTTT | GTGANAATNG | AATTCANTTT | TTN | | | |

1272UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGACCCC | GCGCGCATCG | GGCCCTCCGG | CCTGCTGCGC | CCCTCGCGCC | TGCGCTGGCA | 60 |
| | GCTCGTCTAC | ATCCTCACCG | TGCCCATCTT | CACCAACGAC | TTCTTCATGT | CCGGCTTCTG | 120 |
| 50 | GCTGCGCACC | TTCGCGCGCG | GCTCCAACCG | CGACCTGCTG | CTCGGCTGCT | CGCTGGCCGC | 180 |
| | CGTGCTGCTC | GCCGTCGTGC | TGCTGCTCGT | CGGCGTCACC | GGCCTGCTCG | CCGTGTGGGC | 240 |
| | CGGCTACGCG | CCGGTCGCAG | ACCTCGACAG | CGCCAGTTTC | TTCTGCTGCT | TGCGCCGCT | 300 |
| | GCCCGCCTGG | GCCAACGGCG | TGCTGCTCGC | CCTCGTCTGC | GTGCTATCCA | CCTGCACGCT | 360 |
| 55 | CGACTCCTTC | CAGAGCGCAC | TGCTCTCCAC | CATTTCCAAC | GACCTCTTCC | CGCAACCGCC | 420 |

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | TGCCCCCGCT | CTACGGGCGC | GCCGCGGTCG | CCGTGCTCAT | GGTCCCCGTC | GTCGTGCTCG | 480 |
| | GCCTGCTGGC | CACCCGACAT | CCTGGCCATC | TACCTCATCG | TCGACCTGCT | GTCCGCCGCC | 540 |
| | GTGCTCCCCG | TCATGCTGCT | GGCTTCTGGC | CGCGCGCCCG | CGCGCCCTGT | TCTGCCCTTG | 600 |
| 5 | AGCTGATCGG | CGGCGGCTCC | GGNCGGCTGT | CTGCGTTCTC | NTCTTTCCGG | CCATCTATAA | 660 |
| | CGCTNTNCCN | CNANGGGGNC | GCTTGTATT | TATTGNAANG | NCCCTACTTN | AATAANGGGG | 720 |
| | NNCTTNNGGN | GCCTNGTCNT | TCCCCCNNTN | GGGAACTGTT | TTTCCCGGNA | NAANTTCNGC | 780 |
| | CTGGGNNCCC | GTTGGNCCCN | CCCGGANANT | CANGNTAACC | NCAGGGGAAN | TCCAAANCTT | 840 |
| | CTNC | | | | | | |
| 10 | | | | | | | |
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| 35 | | | | | | | |
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1273RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCCAATA | CAAGCAATAT | TGTCGCTACC | AGAATGCCCC | ATTTGCGACC | CATATAATCA | 60 |
| | CAAGCGAATC | CCATCCCCAC | CTGCCCTATG | ATAGTCCCTA | TGAGTGATGC | ATTTGAAACC | 120 |
| 5 | CTTGTAGATA | CATCTGCACT | ATATTCTATC | TCACCGTACT | GATTTCTGAA | TACACGGTTT | 180 |
| | AACATCGACA | TGACATTATT | TTGGTAACCA | TCTGAAATAA | GCGCAAATCC | TGCCGCCAGG | 240 |
| | ATACTGAATA | GATGTAGCCA | TTTGCCCTTC | TTCCCCACAG | CAAAACGTGC | TTTGCGAGCC | 300 |
| | TCCGCGTCAT | ACTTTAGTAA | CCCTGTCTGT | GACATCGTAT | TTCTGCAAGC | CCCGGCTATC | 360 |
| | CGAATAATAT | CTAGCGGGTC | AAGCGTTAGG | TTGCTGCATT | CTATATTATA | TATTTCTCTT | 420 |
| | CTCTACCACG | TGCAAATTTA | CCTGTATGAT | TATGCTGCAA | TCTCCGCGTT | CTACTTCCTT | 480 |
| 10 | TCTTGGAGAC | CGCTACCGAC | TGCTTTATGA | TTATCGGTGC | ACCATATGGC | GTCAAGCAGC | 540 |
| | ACTAGCTTTT | ACCTGTGATA | CCTTCCTTTA | CTAACTGNAT | TCCGAAC TAN | TTTGNNCCCA | 600 |
| | TACTATATCC | TTCCCCTAGA | GTGAAATAAC | CTTCCATTTA | GGTTNNNTCC | ATTCCCNCAA | 660 |
| | ACAGTTTTTA | AANAAANACA | ACCTTTATCC | TTNAACCCCA | AACGCCCAA | AAANAAAT | 720 |
| | TCCCCATTIN | CTAGGTTTTT | TGNGCCNGGA | GGGAAGAAAC | CCCCCTAAC | CCCCTAAANA | 780 |
| | ATTCTCTTNC | CC | | | | | |

1273UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCGGCGTA | TAAAACTGAA | AGTTCATGTA | TGCTGTCTTG | AATGCAGAGA | CGCGGCGCAC | 60 |
| | TTTACACATC | GGCAAGCCTT | GTGTTGCGAA | TGAAACATTA | AGCTTATGTC | AAATACCATG | 120 |
| 20 | AACTGTATGC | CAAATTTAGT | AAAACCTCGT | CGTGCTGGCA | GCATAGATAG | AGCTGTTACC | 180 |
| | GATATCTCCC | TTGAGGCTAA | AGCCGAGCAT | TGGGTATTAA | CTTGCCCTGGA | CTATTCCGAA | 240 |
| | TCAGAGCTTT | CAGATTCTGT | TTTATCATGG | TCAGTCATCA | AAGTCGTGCA | TGTAGGATGT | 300 |
| | TCTATTTTCC | CACCGCAATA | AAGTGCAGTA | TTTATGCAAT | ATTCAATAAG | CTTACCTCTC | 360 |
| | ACCTCGATAT | CTAGCACATC | AGCTGGAGCG | GAACCTAAAC | AGACACGAAG | TTTAGTGGCC | 420 |
| | AGCTCTTCGA | GGAGTGAAAA | TATTTCTTGG | TCCGGCAATG | ATCCTCATGC | GCCATTATAT | 480 |
| 25 | GGCGTAAAGT | TAGGTACATA | CCTGTGACAC | CCAACAAAGT | ACAGTTGCTA | ACGTCCCAAT | 540 |
| | ATCTTAAAGG | ANCCGTTTAA | ACCNCATATT | AAGGTGAAGT | TTATGAACCT | TTGANAGTAA | 600 |
| | CTGNNTCNTT | ATAGCGGAAT | ACCANANNAA | TAACGNCCTT | GTTANGGNAT | CTATCGAAGG | 660 |
| | NTTACTTCCN | NTTCGANCAT | TTTATAGTTC | NTNCTATTAC | CCCCGANAAA | TTTGAACAAAC | 720 |
| | CNTGAGAAAA | GTTNTNNCCN | CNGGGAAANG | AAAANTNTNC | TTNTGANTCC | CCCCGTTTAC | 780 |
| | CTTGAAGNTT | CTCCATTTCN | GAGATTCAAA | TTTTTNTAAN | AAGGANTTTN | TAA | |

1274RP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCAGAACC | AAAAAGCAGT | TCGAGTATAT | CAGTAAGCAC | TGGGAAGTTT | GGGAAATAGC | 60 |
| | AGTGCTGAGA | GTTACGGGAC | AGATTGGCAA | AGACACATTT | GCGATGGAAT | TTAATTCGCC | 120 |
| 35 | GCAGCCAGAG | CACGCACAAT | TACACATTCA | CCCTAAAGGT | GCAGCCCGGC | TGCTGGGAAA | 180 |
| | ACTGCACGCG | GAGGGTCGCG | TGATGCACCA | CGAAGATAAC | CAAGAAAACC | GGGGCCGGGA | 240 |
| | AGGACCGCTG | ATTCCGTCAC | CGCCGCTGTC | ACCACGAATC | GGGCCGGGAG | AGAACC GGCG | 300 |
| | CGCCGTNGGA | ACGGAATCCC | CGAACCCCTT | TTNTTACCCC | AACTTGGNTC | CCNGCCCTAN | 360 |
| | TTTCAAACCG | NTTNCAAACC | CCNNCCCTGG | GTTTNTTNGC | CCNNNTNCCC | NTANTTGGGC | 420 |
| | TNCGGGGGGG | GGGGCCCNNG | CCAAAAAANA | ANGGGGTNTN | CCNGGGNGGC | CCCCNGTTTT | 480 |
| 40 | ANCAAAANAT | TNCCCCCGGG | GGTTNCNCCC | CNNAAAAGGT | TTTTCCCCCC | CCCCGGGGTT | 540 |
| | ACCAAAAANC | CNGCCCCCCC | TTTGGANGGT | TTCCCNNTCC | CCATGGGGGG | TTTTCNCGGG | 600 |
| | GCTCCCCCN | GGGGAACCCC | AAAAAAGGGC | CCCCCTTTT | NTGGGCCCCC | NAAANNCCCC | 660 |
| | CNTNNTTTTC | CAGANGGGTT | NCCNCCCCCC | TTTTTTTTTCC | CCATTANNCG | GGAANTCCCN | 720 |
| | NTNTTCCCCC | CTPTNNCCCC | CCCCCAAAA | ANNAATTTT | TNNAATTAANA | GAGGGCCCCN | 780 |
| | NGAAAAANAA | NACCCNNCCC | CAC | | | | |

1274UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAATTGC | GGATACACGA | GGCACAGGGC | GATAGGCCAA | GCTTCCAAGA | ATGGGAAGAG | 60 |
| | TACCTAGTCA | GGGTCTGCTT | GGTAAGACTG | AACCGCTGCA | AGCAGCTCTA | TACACAAAAT | 120 |
| 50 | GTAGAGATT | TATTCGATAT | ATATCCGCAG | ATAGACCGCC | CATAAAACT | AATGATACGC | 180 |
| | TAATTCATAC | ACCTACAGCG | TGTACATCAA | ACACACACAC | AAGTTTGATG | CACACGCTTT | 240 |
| | ATTTGTTCTT | TGCACACACT | TGATTTAGAC | GGTCAACACC | CTCAAGGTGT | TAGAGTGGCC | 300 |
| | AACACCAGAC | GCGAAACCTC | GAATAGTGAC | AATAGTGTCA | CCCTCGCTCA | GGATACCAAG | 360 |
| | CTCCTTGAC | TTCTCCACAC | CGAAGTTCAA | TCTGGCCTCG | ACGTCACTCG | TCCACTCATC | 420 |

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|---|------------|-------------|------------|-------------|-------------|------------|-----|
| | AGCTGCCTCC | TGTTCTGTAGA | CGAATGGGAA | GACACCTCTG | TGCAAGTGGC | AGTATCTGGC | 480 |
| | CGCTCCTTGG | TTTCTGGTCA | CCATAACGAT | TGGAACGTTT | GGCTTGTA CT | TGGAGACCAT | 540 |
| | CTGTGGTGTT | CACCCGAGGT | TGATACACGA | ANATGCCCTG | GCTTCTGCTC | GAANTNCCGC | 600 |
| | GAAAGCAGCA | CACAAGNCCC | CGAGGTTGAA | TTGGCTTGNT | CATTTCCTGA | GTCACCGTAT | 660 |
| 5 | TTGAACGTTT | GGAAAGGCCTG | CNCCACNATC | AAAAATCTCGC | CAGNCNTAAA | CGTNAATGGT | 720 |
| | TGANACCCTG | GGGNTCCCCN | AAAAATAANA | TCNCCCGCCN | GAAAAGTTCC | ACTTCGAACN | 780 |
| | CCCCNGTNGT | CTGGTTTTGN | TGGTANCCCA | ACCG | | | |

10 1275RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | TGACTCGGCT | TCGTGAGGAA | CTGACGCTTT | TACTACATGT | AGATTGAAAC | CCGTTTTCTT | 60 |
| | GGATCGCCTC | GTCTCGTTGC | TTGGTATCTT | TGCCAATCCT | CCTGAGTGGG | CGCTGCCTGT | 120 |
| | AGAGGATCTT | CGCGATGGGC | CAAACACGCC | CCACCAGCCC | AAAGACGTTG | GAGAGAGGGC | 180 |
| | TGAAGAAGGT | TCATTGACCT | CCTTTATGGC | TTCAAAATGCT | GACGGAAGTG | ACAAATCGTT | 240 |
| 15 | CCCAAGACGC | ATGTCCGACA | ATTCTCTGAC | GGTGGACTCC | AAGACCTGGA | TGCGCTCTGC | 300 |
| | CCTGGTCTTT | GATATTCTAT | GGATAGTGGC | AATGTCTCTT | GAGAGTGTCA | TGTTCTCGTT | 360 |
| | TGTGAGGTTT | AGGTTATCAA | GTGGGCAAT | AGCGAGCTGC | TCTGCAAGTT | GGTGGTTTTT | 420 |
| | TCCACCAGCT | GTGCTCTGT | GTGTTTCAGG | TCTGTCTATC | GTTTCTTTAA | GCCTCTCCTT | 480 |
| | ATCGGCGGAT | CGTCCACCTG | GACTGNTATN | TTTTTNCCAC | NCCCATTNNN | CCATAATTTG | 540 |
| | NTNAAGNAGG | TNCCCCNCCG | GAATTTNGNT | CCCGTTTCCA | NAGNTCGGNC | CGGGGATAAT | 600 |
| 20 | TFAAACNTTT | AAAAATTANC | CCCGGCCCTA | NTTCTTTTIN | CCNAATNNNN | GNNCCCCCN | 660 |
| | GNAANNTTTT | NCAANNCTTN | TGNNCCNTAN | CCTTTTTTNNC | CCCACGGTTT | TTNNTCCCCC | 720 |
| | CCCNTCCCCN | ATTNNGGANT | TCCCCCNTTN | CCCC | | | |

1275UP

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|----|------------|-------------|-------------|-------------|------------|-------------|-----|
| 25 | GATCGCCAC | ATTATGTCTC | AGGGTACTTT | GTACGTTAAG | AAGACCTGCC | GCTCGATGCT | 60 |
| | GCCTCAGAGC | ATCGTCGAGC | ACTACAACCT | GGACGTCTCT | ATTGTGATG | CCGACAAGAA | 120 |
| | CGAGGAGTTC | GAGAAGAAAGT | TCCCATTGAA | GCGCGCTCCA | GCGTTTTCTT | GTGCGGCTGG | 180 |
| | AAATCTAACT | GAGACCATGG | CCATCAACCTA | TACTGTAAAG | TTGCCACCGA | CTACACACCG | 240 |
| | AAGCATGGAG | CCCTAGTGTG | ATGAGAAAAAC | CTTTCGAAAA | AACAGTTATC | CCTGTCTGAA | 300 |
| 30 | TGGGCATAAT | ATCTGGTTGC | ACATGTGTG | AGAGACCATA | CTCTGATTTA | GAGCTACATG | 360 |
| | CGAGGTTCCG | AGGAACACGT | ACTAACCAGAA | CAACAGTGGT | CAACCTAATC | CAGGACGAGA | 420 |
| | AGGCCAAGGC | TGCTCTGCTT | GGCTCCACGC | TAGAGGAGCA | GGCACAGGTG | TTGCGCTGGG | 480 |
| | AGTCTTTGAC | CAACACCAAC | TTCATTGACG | ACGTTGGCTC | TGCCTCCTAT | ACCTAGAGAG | 540 |
| | GGTGTGGTCC | CNTTNCACCA | ANNKNACATG | GAAAAACGNCN | TTCCCNNGGG | CGAAACNTTN | 600 |
| | CCCNAGNGTT | TTNNAAAAAA | GAAATAACCN | CTTCCCTCCC | TTACCCCGGG | AAANTTTTTNT | 660 |
| 35 | TTNCCGGGAN | NCCNTGNCNN | TNGGGGGGTT | GAACNNANTT | CCCCACANTT | NGGGGNGNNN | 720 |
| | NTGGGNCNG | CCCCCCCCC | CCCNNNNANG | GTTACCCCTT | GGGTANCCCC | NNNTNAAAAA | 780 |
| | CNNCCNCCC | CCCTTNGGTC | GGACCNAAAG | GGGGGGNCCC | CAAANGAAAA | AAAAAATAAA | 840 |
| | AA | | | | | | |

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1277RP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCCGTCAC | GGACAGACTG | AATGGTCAAA | ATCAGGTCAA | TACACAGGCT | TGACAGACCT | 60 |
| | TCCGCTGACC | GAATATGGTG | TCCGCCAGAT | GCGGCGCACT | GGTGTGCGA | TATTTAGCGC | 120 |
| 5 | AAAAATACATT | GATCCTGCGC | ACATAACATA | CGTATTTACT | TCTCCACGCC | AACGCGCGCG | 180 |
| | GAAGACTGTG | GACCTGGTTT | TGGAAAGCCT | CAGTGAAGAT | GAACGTGCAC | GCATCCAGGT | 240 |
| | GGTGGTTCGAC | GAGGACCTAC | GGGAGTGGGA | GTACGGTGAC | TACGAAGGTC | TGCTGACAAG | 300 |
| | CCAGATTATC | GAATTGCGTC | GTAGCCGTGG | CTTGGACTGC | AAGCGCCCAT | GGAATATATG | 360 |
| | GCGCGACGGC | TGCGAGAACG | GCGAGAGCAC | CCAGCAGGTG | GGCCTGAGGC | TATCACGAGT | 420 |
| | GATTGCCCGG | ATCCAGGCAT | TACACCGGCA | GCACCAAGCT | GAGGGACGGC | CGAGCGATAT | 480 |
| 10 | TCTGGTGTIT | GCGCATGGCC | ATGCTCTCCG | TTATTTTCT | GCGCTCTGGA | TGAAGATGGG | 540 |
| | CGTCGAAGCG | CCGACGCCAG | ACTGCGCCAT | GCCCCTCGAGT | AACCGGAATG | ACGATCCGTG | 600 |
| | CCCTTGGTGCT | GGCTGGAGCA | ATCCGTACCT | GCAGGACACC | CCACTTCTTG | CTAGACGCAG | 660 |
| | GTGGCATCGG | TGTGTTGTCC | TACCCCN | ATTTGAGACC | ANTCTACTCN | CCTGGCCNTT | 720 |
| | CNTTGCCCCC | CCGAGATCCC | CCCACGGTNA | GTCCCACCGA | AAATTTTAT | ATCTACAAGN | 780 |
| | GNGTCCCCC | ATGAATATAC | CNTATCTTCT | TAATCGTCCN | CN | | |

1277UP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GCCGTCCTTC | TGCGGCCAGC | GCGAGTCCAG | GTGCCGCGC | ACGCCCCACG | AGCGCGACCT | 60 |
| | GCGCAGGGCA | TAGTACGCGT | ATGCGACCAG | GCCCCGCGCC | AGCACGTTGC | TTGCGCCGAA | 120 |
| 20 | GAACCAAGAG | AACCGCGAGC | GGCTAACGAG | CTGCACCAGC | TGTCCGTAAT | CGTGCCGCGA | 180 |
| | CGCGTCCCGG | GACGCCAGCC | CCATGCGTGT | GCCCCACAGT | CCCAGCATCA | CGCCGCCCCC | 240 |
| | GCAGATCAGC | ACCGTCCCGA | CGCACGTAAG | CATACAAAAC | GGCTCTGCGA | GCAGCCAACA | 300 |
| | CGAAAACAG | CTGTTGAACA | GCAGTCCGCA | CGCCTGCAGC | GGGGCCAGCA | TCACCAAGTGG | 360 |
| | TAGCGTGGCA | ATCTGCAATC | TGCTTCCGAA | CACGTTGCGT | AGAAATGAATA | GCGTCAGACC | 420 |
| 25 | CATCTGCCAT | AGGCGGCTAC | GGTACACCA | CTGCACAGTT | CCCCGTGCCA | CTTGCAAGCC | 480 |
| | AGCCTTGCGC | TGAAAGTACC | AGGCCCAAAA | GACTGCATAC | GCTTGAAACT | ACCGCCACCA | 540 |
| | CGACCCATAA | TAACCAAGTT | ATCGACCATT | CGCTTGATA | CCCTGCACCC | TTGCTGCGAG | 600 |
| | AGTACTCTAC | TGTGGGCGCC | TTTTGGCTCT | AGGTCTCTAC | GCTATGCCAA | ACATACTGGC | 660 |
| | TCCGGTGCCT | CATGTTTCGAT | GCTGTATGTC | ACGTGACCGA | TGACAGGGTA | CCTGTCCGTT | 720 |
| | CTCTTCCGGT | TCCAGGGNAT | GATACCGAAA | NCCGAAATTA | NCCGGATGAA | TTTCCCGACC | 780 |
| 30 | CTGCGANTAC | GACNCCAACN | GGAGACGCNG | TTTTNTGT | | | |

1278RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTCAAC | CTGCTTCCGC | CTATGAACAT | TCTGTTGTGA | TTGAGAGGCG | ATACCGCCTC | 60 |
| | CACCTTTCTT | CGAGCCTGCC | CGGTTTTGGT | AATCCATACG | TTCTTCCCCA | TTCTTTTGGT | 120 |
| 35 | ATTGGTATAA | GCGATGCAAA | TGAAAACAGC | CTCTTGAATA | CAAATCGACT | TGCCTACGTA | 180 |
| | TAAAATTATA | TTTTTATCAG | AAACTTGGCG | AGCATCAAGC | TGGGCTTCAT | TGATTCATAT | 240 |
| | ACTAAACAGA | ATACACTACA | TGCTACCGTC | CGAAAACGAA | TAATCTATTT | CCAATATATA | 300 |
| | TATATATATA | TATATATATA | TTATAGTTGT | ACTTTATAAA | TCTGAACTAG | GTCATACAAC | 360 |
| | TCTCAAATCA | AACGATATTT | ATTCTACATA | TAGCACGGGC | GACGCACCAA | TTGAAGACTC | 420 |
| 40 | TAGGGCGCCT | GAACCTTGGCG | CTGCCCTGTA | TCTTTAGCCT | GTTCTTTTAC | AGGGTCATAA | 480 |
| | ACATAGTACA | TACCGCGCTC | TAGTTGCTCA | TACTGGATGT | TCCTCTGTTT | CAGCTGCGGC | 540 |
| | CAATTTTCGT | GAGGGATATC | CCACCCACAT | TTCTGAGCTA | TGAAAGCTGC | AACGTCGTGC | 600 |
| | CACAGCCCCA | GTAACCTTAGG | TCAATTGCGG | TGCTTAACGG | GTCTCTATG | ATAGTACTTG | 660 |
| | TGGTACGTGA | GCTGGACCNT | GTTTACATCN | CGGAACTGC | GCNCCTTCAN | CTNTTCNATC | 720 |
| | ANCNCAATCG | CATNCANNTT | CTGGCNANTT | TTTTTGANTC | CATGACCCCC | CCNAAANTNT | 780 |
| 45 | TTCCGGTNG | ACCCACACCC | CCTTGAAATN | NCTGATNTGN | AGANGCNC | | |

1278UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGGAT | GTACTGGGGG | CTCATACTTC | GGCTTCTGTT | TCTTGTCTTT | TTTGCCCTTC | 60 |
| | TGGCCCTTGC | CATACGTCGA | TGCTCCTTGG | CCCATCTTAG | AGATATCTGC | TGTGCCGCTA | 120 |
| 50 | TGGAGTAACG | CTTCTGCTTG | CGAACTCTAA | GTAGTGTAT | CAACTTGTGT | GTATCATTTT | 180 |
| | TGCCACCTGG | AATCCATCAA | TTTCACCTAG | CCCAACCCAA | GCTGCGACCT | ATCAAAAAAC | 240 |
| | AGGAGCAGGA | AGCTGCCTGA | AGAAGCCTC | CAGGGGTCTA | CCGACGGGAA | AAACTACGAG | 300 |
| | ACTGGTGCT | ATGACATCCT | TCCCGGATC | CATCCCGAGT | TCAGTGTCTT | CGAGCTGTAC | 360 |
| 55 | AATTGCGTCC | GAGCGGTCCG | AGCGCAAGCG | TGCTGACAAC | ATCAACGACC | GTATCCAGGA | 420 |

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GCTGCTCAAC | GTGATTCCAG | AGGAGTTCTT | CCAGGACTAC | TACCAGAAGA | AGAAGGACCA | 480 |
| | GGAGTCCGAG | AGCGGGACGC | CGGGCGCTCT | GCCCCAAAAC | AAGGGAACTG | GGACGCGCGA | 540 |
| | CGGCAAGCCC | AACAAAGGCA | GATTCTCAGC | CAGGCCGTCC | AATATGTGAC | CTATCTGCAA | 600 |
| | ACCAGTGGAT | CTGCGCACCG | CGAAGAGGTG | GAGCTGATCC | TGAAGGTCAG | GAGCTGTGTC | 660 |
| 5 | GGCAGACGGG | CAGCATCGTG | AACGACGTGA | ACTAGAAACA | CCATTGCCGA | CTCGCGCTGG | 720 |
| | GAAATCGCGT | TGGGCNCTGC | AGCGTGCTCC | GGAATTNTGC | GGCCNCAGGG | CAGCACACCC | 780 |
| | NGGCAGCACA | CCGCCCCAGA | CCACACACTC | ATTTGGGTCC | CATTCCGACG | CNTAGATTTT | 840 |
| | CNCCTGGNCT | GTTTT | | | | | |
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1279RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCTTCTG | GATGCTGGTA | GCTCCGATGA | GGAAGTCGTA | CTTTTGGTAA | TGTCACGCT | 60 |
| | GCTTAAGCAT | CTACTTTCAA | AGCGTGATAT | ACAGAGAGCG | TTTGCTAAAA | GTGGTGGATA | 120 |
| 5 | TACGTTACTG | TTCTCCATAT | TAAAAGATAT | CCAATCCGGG | CTTACAGGAA | AAGTCACGAA | 180 |
| | TCTATTGTGC | ACCTATGCAT | TTGGAAATCA | TATTGTCCCA | ACACACAGCG | AAAGCACGTC | 240 |
| | CCTTCTTATT | AGACCGCAAG | GCGATGGGCT | ACAAAGGATA | GTTTTCGAAC | TTCATTATTT | 300 |
| | GGCAATTGCA | TTGTTAGAGA | TAGCGGTGAT | AAAAAGCCCC | AAGGAGGATC | AACAAGAGTT | 360 |
| | GAGTAAAAAC | ATTATTACGT | ATATCAACGA | GTTGGCGTTA | CTTCATAGTA | CTCACTCTCG | 420 |
| | AATATCGCTT | TTTGATCCAA | GCGTATGCCA | ACTTCATGAG | AGATTGTTAA | CTTTGTTATT | 480 |
| 10 | AACTTTGACA | GATCCCAAA | ATCAGGGTTT | CTATATACAG | GCTATTCTGG | ACATTGAACT | 540 |
| | TCTATTGAGT | AACAACATAT | CTTTCACCTA | AAGAATGATG | ATCCACCACC | TTTTCGAACT | 600 |
| | ACTTGCAAAA | TATTTTGGTA | ATGAAAGGGA | CATCCGATTA | GTCCTAGCAG | ATTACAGTTA | 660 |
| | GTAACAAAGG | TCCAATTATA | TTGAGACCAC | TATATTNTAA | AATTGTCCCC | NTGTTATTGA | 720 |
| | AAACTTNTGC | CCNGGGTACA | CTTATTGCTN | TTCNACACCG | TCCTGNAAAA | ANFTGTNTTT | 780 |
| | GTTACGATTA | ACTCGTTTCC | TTGATTGAGC | AACTTTTGNT | TTTTATCATA | G | |

1279UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCAAGAGT | ACAGTTGATG | AAAAGGAGTT | CCATGATGAA | ATATGTAAGA | TGGACTTGCT | 60 |
| | TAAGAAATTG | ATAATATAAA | AGGCTACGAG | CTTCAATATT | ATAATACGCA | TTGCATAATT | 120 |
| 20 | TATTACATTA | AATTGATATA | GGTATATTTT | TCTTCGAAGA | ATTAATTCTA | ATCATTTCCTA | 180 |
| | TGTGAAGATA | TCGCCCTCTG | TGTTACCTGC | GGATATTTTC | ACTCTTAGTA | TATCTACATA | 240 |
| | TTTGGCGGAG | CCATTATTTA | AACTCGCCAG | CTTGACTCTG | GACCCAAGAG | CCGTAATGGC | 300 |
| | AGCAGCTCTT | CCTGAGCGCA | ATTTCTTCAA | GCAATTGAGG | CACCATGTGC | CGTTCTTTAA | 360 |
| | TTCAAGCACA | TATAAACAGA | CCGTCCCGTC | AATAAACCTT | AGCACAATTA | TATCCTTTTC | 420 |
| | TTTCCAATCA | ATGTCCCGAT | ACCTGGACAT | TTCTGAGAT | GCAAAGTTAA | CAAAGCTTAT | 480 |
| 25 | AGCAGTGATA | TCTTGCGTTA | GAGACATGCT | TGCAAAATTC | GAACCGTTGA | GGTCATAAAC | 540 |
| | ATGAACGTTA | TTTGAGAATA | TCAACCACCC | ATTAATGAA | CTGTACCTGT | TTGAAACCGC | 600 |
| | AATGCACCTG | NNTNNCTNGA | AATATTCNCC | AACCCNCCCT | TAAAAGNGTC | CCCCTTTATT | 660 |
| | NNGNCTNGC | TATTTCCAAA | AACNTACCCG | NNTCNNTGTG | NCNCCAAGGN | NNTTTNNCNT | 720 |
| | TNTTGGCAGC | CTTTTAGAGN | TTTAAANATN | TTCCAANCCC | CAAAATCCANT | TTTTAAAGGN | 780 |
| 30 | CTCCCTTNA | AANNTCNTGA | ATGANACAGN | GAATTCGTTT | GCCNTTTAAC | TTCCAGTNA | 840 |
| | G | | | | | | |

1280RP

| | | | | | | | |
|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCATCAGA | CCTGTCCGGAG | GGTTCCGTTAG | TGGAACCTCT | TCGTAGGGGG | GAGCCGCTGT | 60 |
| | TGTGAGCCTT | GAGCCGCTCT | GGAGACGGCG | GCCTCGAGTG | AAACGGAGCT | CGTATCGGGG | 120 |
| | ATCGCGAGAT | GTACTGGGGC | GACCTTAATG | CAATTTTCTT | CTCGAAGGAC | TTTGTGGGGA | 180 |
| | CGGAGGAAAG | TCTTTCAAAT | ATTGACGCAG | AGCGGCCCTT | TGAGATTTGG | CTCTGGAAAG | 240 |
| | ACGGTCTTTC | CAAGGCCGCG | GGCAGCTTTT | CTCCCGTGCT | TGCAGCGCTT | GCCGCAGGTG | 300 |
| | CAAGCACGGC | CGCCTTCGCA | AGAACGGGAC | TCTGCTTCAG | TAGGCTTGTC | TTGGTCATCA | 360 |
| | TCGGCTGCAC | CACCAGCGGA | TC TTGTTCG | GCAGCGGCAC | AAACATGTTG | GACCGCCGGA | 420 |
| 40 | GGGTGCGGTC | ACGGCTCGGC | GGAAATCACGG | CTGCCGTCCG | AAACGTGAAC | GTGTTCTCGG | 480 |
| | GGCTCTTTCGA | CATCGAAACC | TTGCTCTCGT | TGATGCGACT | TCTCCGAGTC | CACCTCCTGT | 540 |
| | ACCGTCGTCT | GCTCCCGCTC | CTGCGTGCGC | TCCGGCTCCN | GNCNCNCNGT | TCCTGCCTCC | 600 |
| | CTGACTNTTC | CCCCCCTTTT | AGGGGAACAC | GGGAAGAAAA | NAANTNCCCT | TTCTNNCCCG | 660 |
| | GCCCCCTGTG | TCGCCCCCN | NNNNCCCCCN | CCCTNNNNNN | NNNNCNCNNN | NNCCNNCNCN | 720 |
| | NNNNNAAAA | NTAGGGGNGG | GAAAAATGNG | GTTAGNGTCC | CCCACCNGAA | CCCCAAAAAA | 780 |
| 45 | AACCNCCCAT | GTNTCCAGGG | NCTTNTATGAN | CANCTTCNCN | NTGGGA | | |

1280UP

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|--|------------|------------|------------|------------|------------|-------------|-----|
| | GATCATAATG | CGACTATCGC | CCATAAGCAG | GGCAATACGC | CTATCCACAT | CAAAGTCCCT | 60 |
| | GACCGTTCCA | TTCTCCGCGA | CCGTGACGTG | CCTGTGTACA | AAGGCTCAGC | GCTCCAGGCG | 120 |
| | CGCGATGTCA | TCCCGTATCA | CGAACTATCA | AACTCGAACT | ATTTCACTGT | GAATCCTGGT | 180 |
| | GAAACACTAA | CACCTCTCTG | GTATGAAACG | GAGTTAAACA | TCCAAGGCAA | CATTGTCCGAT | 240 |
| | GGGCGGCAGA | TTACCAAATT | AACTCAGGCT | GTACCAGGCG | ATGTCCCGAT | TTCTATTCTA | 300 |
| | GACGGGAACA | ACTATACCCA | CTGGCAGCCG | TTGACAAAGT | CTGAGAGGGC | ACTCTTGTG | 360 |

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | ATTGATTTGG | GTTCCGAAGA | GGAGTACGAG | ATCACAACGG | GTTAAAATTT | TGTGGGGCGC | 420 |
| | TGTTCCCGCG | AAGAACTTCT | CCATCTCTAT | TCTCCCCAAC | TCAAAGCACA | TCACAGAGAT | 480 |
| | ATTGACAAAA | CTGACGGCCA | TGATGGACGG | CCGGAATACG | GACTTGTCTC | CTGCTCAAAG | 540 |
| | TGCCACGCCG | TCTCTTCTC | GCAGCATCTG | CTCGGCGGGC | TGGCGAATGT | CACCGATTCC | 600 |
| 5 | AGGGAACTCG | CGGCCATTGA | TGAAAACGTG | GANN TGTTTT | TAAAAAATTT | CNGTTGGACT | 660 |
| | TTCACTCCN | NCNNTTCACN | TTTCCCNAGG | CGCCAATNCN | GANCTCCTNA | GGCCCTGNAA | 720 |
| | CACCATTNAN | CNFCGACCTA | CTCAAAAGTN | TTCTATCCCC | CAATNTCNTT | TCCAACACAA | 780 |
| | CGATCTGCTA | ATTGNGCGNC | CAACCATCAC | TTNNTGCATC | ATTTTGCCAC | AACAATGNGA | 840 |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
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| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1281RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCCGACGT | TCAGTGGACT | CTTCCCATT | AAGGTTTTCA | ACAAATTCCA | AACTCATGTG | 60 |
| | TTTAATGCCT | TGTACCATAC | CGATGAAAAT | GTATTTATTG | GAGCTTGTA | GGGCTCGGGT | 120 |
| 5 | AAAACATGCAA | TGGCAGAATT | AGCTTTATTG | AGTCACTGGA | GAGATGGTAA | GGGACGTGCC | 180 |
| | GTCTATATAT | GTCCATCTCA | GGAGAAAATT | GATTTTCTGG | TGAAGGATTG | CGGAAACAGA | 240 |
| | TTTTTAAATG | TGGCAGGTGG | AAAGGTTATT | AATAAACTCA | CATTGGAATT | AACTAACAA | 300 |
| | CTTCGAACGC | TAGCCCAGTC | GCATTTAATC | TTAGCGACTC | CAGAGCAGTT | TGACCTGCTT | 360 |
| | TCTCGTGGCT | GGAAAAGAAG | AAAAAACATT | CAGACATTAG | AGCTGTTGAT | TCTAGATGAT | 420 |
| | CTTCATATGA | TCAGTAGTGA | CTTGCCCTGGC | GCAAGGTATG | AAAATATAAT | ATCCAGAATG | 480 |
| 10 | CTGTTTCATT | GGGGTCAACT | TGAAACGGCC | TTGCGTATAG | TGGGTTTATC | TACCTCCCTC | 540 |
| | GCTAATGGTC | GCGACTTTGG | AGAGTTGGCT | CCGAGCTAAA | AAGCTACATT | TTTATTTCTC | 600 |
| | CTTTCACGAA | GGGTTATGCC | CTTACAGATC | CNCTTACATC | CGTTCCCTAGA | NGCATGAAAN | 660 |
| | TCTTTAATTG | AACTATGGCC | AATCGCTTCC | TGACGNACAA | CTCTGTGATA | CTGCCANTNT | 720 |
| | TANCTTTTGT | TCATTAGAA | ATGTTTCAAT | TCTGTCNCTG | CACGCCGCGC | GGANGAAATC | 780 |
| | CTGGTCNCCN | ATTAGTTGGA | ACCATTCTAG | GNNAAGAC | TCTTATCCTA | ACN | |

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1281UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTGAACG | TATGAGAGCG | GGTTTTTACT | AATTATAGAA | CCATATGAGA | TAGAAAATGC | 60 |
| | GGCAGTTCCA | AATCCAATAA | TGCGATTAC | GTGCCCTGAT | GCTTCCATTG | CAATCAAACC | 120 |
| 20 | AGTGTGTTGAG | AAGTTTTCGT | CAGTTATTAT | TACATCGGGG | ACCATTTCTC | CGCTTGACAT | 180 |
| | GTACCCCTCGA | ATGCTGAATT | TTGAGACAGT | TCTTCAAAAA | TCTTACTCCA | TGACGCTGGC | 240 |
| | GCAGAAGTCC | TTCCCTCCAA | TGATTATAAC | CAAGGGGTCA | GACCAAGTAG | CCATCTCTTC | 300 |
| | TCCGTTTGGAG | ATCAGGAATG | ATCCCTCAAT | TGTCAGGAAT | TATGGTTCCA | TATTGGTTGA | 360 |
| | ATTTGGCAAAG | ATTACTCTGT | ATGGTATGGT | AGTGTTCCTC | CCCTCATATT | TATATATGGA | 420 |
| | ATCCATTATT | TCAACTTGGC | AGACAATGGG | GATCTAGACG | AGGTTTGGAA | ATACAAGCTC | 480 |
| 25 | ATCCCTCGTG | GAACACACAG | ACGCCACAGG | AAACCTCCTC | TACCTTTAAA | AACTNACCNA | 540 |
| | AGGCCNGCCC | NNAATGGGNC | GGGCCANTTA | ATTTCTNGTG | CCGNGGGAAA | ATTCTNAGGA | 600 |
| | ATGGATTING | ACNCCCTCGG | NGGGAGTGTT | TGAAAATGGA | TCCCTCCCTT | NACCGANAAC | 660 |
| | GTTTNTTTTAG | GGAGGGTTNT | NTCCNTNANA | AAANATCCAA | ACCGGGAATA | CTTTTCTCTT | 720 |
| | NNAGCATGAA | NCCCCCCCCC | TTTGGGAAAA | TTCAGGGGTG | AGGAANATAT | GGTTAATGTN | 780 |
| | CCCCCANCN | GNNNCCNNA | AAAAANCACT | CCCAATGTCC | CAGGNCCTTN | NGNACCCTT | 840 |
| 30 | CTNNNNATTG | GAT | | | | | |

1282RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGGAAT | TATAGAATCG | ATGAGCATT | CATTAGCAA | CCTTCTTCCA | ATTGCTAATG | 60 |
| 35 | GTTTCATATAT | AAACTCCCTA | GCTTCTCTTT | GATAAATCCT | TTCAAGAACA | GCACCGTCGC | 120 |
| | AGTCTGGGTT | TATCTTTATA | TTATTTCTTG | TTATGCAACT | CGCATGGTCT | ATGAGGTCCC | 180 |
| | TACATACATT | TAGGTGCGCC | ATCAGTACCA | CCCTCTTCCC | CAGATTCTCT | ATGTTCTCTA | 240 |
| | CACGTTTGAA | TAGAGTTTTC | AGGAAACGCA | GCCTAAAAAC | TTACCCCTCC | TCAGTGTTC | 300 |
| | TAGAATTAGC | AGGGCAGTAT | ACGGAATGA | CCACCACCTT | ACAGGCCAAT | TCGACTAGAA | 360 |
| | GGCATCTCCC | CTCACTGTCT | AGTTCCTGTG | CATTAGCATC | ACTCCCATAG | GGCAAGCCAT | 420 |
| 40 | CATAACCACC | AATACCAATG | GTCCGGTCTT | CGCAATATGC | TACCAAGGCG | CCATCCTTTT | 480 |
| | TTAATTTTTT | AGTCTGCCTG | TAATACCTCC | TCCCGCCTTC | AATACTTGTA | ATGATTATCG | 540 |
| | CAACGATCGG | CTGCTTCAGG | GATTCTGTTC | CACNCCACN | CCNATACCTT | TCTCCTGN | |

1282UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTGCGCA | AACACCCCCA | CTCTGTGTAC | CTCCTCGATG | CTGTCAATCG | AGTCCTTGTC | 60 |
| | CATGCTTCTA | TCCTTCAGCA | GGAAACGCGC | TAGGTACGGG | ATGTTCCGCC | GCAGCAGCCC | 120 |
| | GCAGATAGCT | TCGATGACCG | CGGGGTGCTA | CACGGTCACC | GACTTGTAAGT | ACCCGGGGAA | 180 |
| | GAGCGGCGCG | TTGCTCATCG | GTAGCAACAT | CAGCTCCTCG | TACTTGCGCG | GCACCTCGCC | 240 |
| | CTCGCTCGGC | GGGTTGACCC | GGCCGCGCGC | GCCCGCCGAA | GACGCGGAAC | CGCCGCTGCC | 300 |
| 50 | CCGCGAAGAA | CTAGCCTCCG | ACGACCGGAT | CGCTGTCTCT | TCCCGTGGCT | GCCGCTCCGC | 360 |
| | CTCTCTGTCG | CGCACCGCTT | CTCTGTCGCG | CCCTTCCTCC | GCGCGCGGCG | GCACCTTTTT | 420 |
| | GTCGTGCGTC | TGGTCCGGCT | CCCCGGTCTT | GCTTCAGTAT | GCAACTGCCC | GCCGCGTGTA | 480 |
| | TCCCGGACTG | CTGCGCGAAG | GCCACTCTTT | TTGGGGGGGG | GGGGGGNNNG | NNNNCCCCNC | 540 |
| | CCCCCGCCGG | GCGGCGTTGN | CCGCGCGCGC | CCGTTTGTGC | TNTTCACGCC | GGCGCNTTGG | 600 |

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CCATCCCCC CTNNTTTTTC CT

1283RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCAGGAAA | TCGACGGGAC | TGGCTGATTG | TCTTTATAGT | CAAGCATATT | AAACACACGT | 60 |
| | GACTTAAACT | AGATTTACAC | GTGACATGCA | ATTGTGTCGT | TTCTTTTMTA | TTTGAAAAAC | 120 |
| 5 | CTGCATCGAG | CTATTAGATG | CTCATCGACA | CTAGTGATCA | AACCAGTCAA | GGCTTAAAAAG | 180 |
| | CTCTGCAGCA | TGGACCAATC | GAATAAGGAG | CATCGTCCTA | AAAAGGAGAA | GGCGACAGCT | 240 |
| | AAAAAGAAGC | TGCACCTCCA | GGGCCACAAT | GCGAAGGCAT | TCCGCGTGCG | CGCTCCGGGA | 300 |
| | AAGATGGCCA | AGCAGATGCA | GCGCAGCAGC | GATAAGCGGG | AGCGCGCGCT | GCACGTTCCG | 360 |
| | ATGGTGGACC | GGACGCCGGA | CGACGACCCG | CCGCCACTCA | TTGTGCGCGT | TGTAGGTCCC | 420 |
| | CCGGGGACGG | GTAAGACAAC | NCTGATCAAT | CGCTGGTGGC | GCGGTTGACC | AAGACGACCC | 480 |
| 10 | TCGGCGAGAT | TAACGGTCCG | ATCACGGTCG | TCTCCGGCAA | GCGCCGCGCT | CTGACGTTCA | 540 |
| | TTGAGACGCC | CGCGGACGAT | CTGAACTCCG | ATGTGGACAT | TGCGAAGGTT | GCAGATTTCG | 600 |
| | TGCTGCTGCT | GATGGACGGT | ACTTTGGTTC | GAGATGAGAC | ATGAGTTCCC | TGACCTGGCN | 660 |
| | CACNCCACGG | ATNCCCTTTT | NCTGGATTAC | AANCNCNCAT | TTTTCATINC | NAGGCCNCTC | 720 |
| | CNGCTCNAAA | ACTTTTINACC | TCGTTCTGAC | NATTTINCCN | GGGGNNCNCN | CCCCTTCGTN | 780 |
| 15 | TTTTTTATGN | NGNNCCNT | | | | | |

1283UP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCCGCTGG | CCCATCGCCG | AGAGCTATGT | GCATCGCCTC | ATAGTGGCCT | TGATACGTGT | 60 |
| 20 | CTCAACCAAG | ATTGTGGAAG | ACACCGTGCA | CTCCACGAG | TATTTTCAGCA | AGGTCTGCGG | 120 |
| | CATATCGAAG | AAGCTCTTGA | TGCGCCTCGA | GCTAGCCCTC | ATACTCGTCC | TCCGCGCGCA | 180 |
| | GGGTTTGATG | GTCACGGCTG | CAGCTCTAAA | CGCTGCCCTCA | AACGCACGTG | CTCGGCTTCG | 240 |
| | CGAGCAGTCT | GCGCTGCCAG | CCGCTGCTGC | TCAGTGATAA | TCGCCACTTC | TAGGCCACCA | 300 |
| | ATTCCGTTAT | TTAATAAGCA | ATAAATACTC | CAACACTAAT | AGTATACACC | GTTTTCGAGA | 360 |
| | GTAAGCACGC | AGCAGGAGGT | GGCAGCTTTT | CTGGTACCAC | CTCAAGCCCC | TTGCCATTGC | 420 |
| 25 | TGCCTATCTG | GTTTAGGCAT | GAGCAACCTT | AGTCAGTTTC | GAACCCGTGA | TATATGTTTC | 480 |
| | GAACACGTTA | CCTTTTCGGT | GAAAAAGAAA | AGCCTAAAGG | CGAAATGTTT | TCCATGTTAA | 540 |
| | CACAGCAGAT | TAGAGGTACC | TTGTACTGGA | TATTCGTAG | GATCACGGGC | TACGAGCATT | 600 |
| | CATCCAGAAG | CTTTGAACCT | ANGGTGTTTC | NGGATGGCAG | TTNGGGACTT | ATNCCGTGCN | 660 |
| | TNTAAANAAA | TACTTCGTCC | TAGTCTTTGG | AACAAACNTG | CATTTGTTGT | TCTTNGTTTG | 720 |
| | GANNATCGGN | AAGACANCCT | TTGCCCTGCT | AANAAGACNG | TTGGGAACNG | NNGCCNNTGN | 780 |
| 30 | CCCNTCCGA | GNCNNGAACN | GGCCCCNTTN | CNNTTCNNCN | GGGGNNNNC | | |

1284RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCGATCTG | GTCAGGTCTA | TTTGTGGCAC | CGATGACAAA | AACATTTTTC | TTTGCAATCA | 60 |
| 35 | TACCATCCAT | TTCAAGTTAA | AATTGGTTAA | CGACTCTATC | AGAGGGCGCCA | CCAGCATCAC | 120 |
| | CCATTGAGCC | ACCTCTAGCC | TTTGCAATGG | AATCTAGTTC | ATCCAAAAAG | ACAACGGTTG | 180 |
| | GCGCTGCGGC | TC TAGCTTTA | TCAAAAATAT | CACGAATGTT | GGACTCAGAC | TCACCATACC | 240 |
| | ACATGCTTAG | CAACTCTGGA | CCCTTCACAG | AAATGAAATT | AGCAGATACT | TCAGTTGCGA | 300 |
| | CTGCCTTTGC | CAACAACGTC | TTACCAGTAC | CTGGAGGACC | GTAAAAACAAC | ACACCTTTTCG | 360 |
| | ATGGCGATAG | ACCAAACTTA | ATGTATTGGT | CAGGATGCAA | GACGGGATAC | TCAACGGTTT | 420 |
| 40 | CCTTCAACTC | CCGCTTTATG | TCATCCAACC | CACCAACATC | GTCCCAAGTA | ACGTTAACCG | 480 |
| | ATTCAACCAC | GGTTTCACGT | AGCGCGGATG | GATTGGAGTT | CCCAAGTGCG | AATCTAAAGT | 540 |
| | TATCCATTGT | AACTCCTAAG | GAATCCAAGC | ACTTCAGCGT | CGATTTTCATC | CCTCGTCCCA | 600 |
| | ATCAATTAGA | CTCATCTTCT | CTCTAATCTG | TTGCATTGCA | GCCTCTGAAC | ACAAAGAGGC | 660 |
| | ATATCAGCAC | CCAATATCCA | TGGTTTCAGC | AGCTAGCACT | TC CAATCACG | TCATCAGCCA | 720 |
| | TCTCANTTCT | TGNTGTGGAT | GTTTAAATTC | CCACCCTCCA | GTGCTCTGGA | NACCANTTTA | 780 |
| 45 | TTNNNGTCAA | TTTACCAACT | TTTAGNCGGN | TNNATGG | | | |

1284UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAAGCTG | ATATGTATTG | TCGGGCTACT | GGTCGTATCC | GTGGTAATCT | TCTTCGGCGG | 60 |
| 50 | CGCTCCCAAC | CACGACCGTA | CTGGCTTCCG | CTACTGGAAG | AAACCGGGGC | CCTTTGCGAT | 120 |
| | GAGCCTCGCG | CCAGGAAGCA | CGGGCCGTTT | CTTGGACGTG | TGGCGCGCCG | TGATCAAGTC | 180 |
| | GGCCTTCGCC | TTTCATCTAT | CACCAGAACT | TATAGGCATT | GCATGCGTCG | AGGCGCAGGA | 240 |
| | CACCGGGCGG | AACACTGAGA | AGGCATCCAG | ACGTTTCATA | TACCGTATTA | TCTTTTCTTA | 300 |
| | TGTGAGCTGC | GCGCTCATGA | TCGGCGTCAT | CTTATCAAGA | ACTGATCCGA | AACTCATAGA | 360 |
| 55 | GGCGCTGGAG | ACAGGCGCGC | CAGGCGCTGC | CTCTTCTCCG | TTGCTGCAGG | GGATTGCCAA | 420 |

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|---|------------|------------|------------|------------|------------|-------------|-----|
| | CGCAGGGATT | CCCGTGCTCG | ACCACGTCAT | CAACGTCGCG | ATCTTGTCTT | CTGCGTGGTC | 480 |
| | GGCAGGCAAC | TCCTTCATGT | ATGCATCCAC | GCGCATGGTG | CTAGCGCTTG | CGCGCGAGGG | 540 |
| | AAATGCGCCA | AAGTTCCTCA | CCAAGATCAA | CAGATATGTG | TGCCCTACAA | CGCGGTCAATC | 600 |
| 5 | GTCTGCACGC | TCGTGCGCTG | TCTTGCTTAC | CTGAACGTCA | AGACGACTCC | GCAATGTGTT | 660 |
| | CCAGTGGCTG | TCGAACATAT | GCACCATCTC | CGCTTCATCC | GCTTGTTCGC | CATGGCTCCC | 720 |
| | TTATATCGT | TCCCNGGCGT | TCTTTTCACA | CTCCNANCCN | TNCCCTNCCA | GTTCCCTGCA | 780 |
| | CCNTPTCNCC | ACTATTCCTT | TNTAATGTMT | CTTTTTNGAC | AATGTTCCCT | C | |

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1285RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCGGGTC | CGCCACAAGC | TGCTGGTCCA | CATCGTGCTG | CTGCGCGGCC | CCCCGACGC | 60 |
| | GCCCGGAAAG | AAAACCGAAA | TCAAGGCCAG | CATTCCGGTT | ATGCTCTACA | TATGCCGCT | 120 |
| 5 | CGTACCTGTG | CAGGGCCGCA | CCGTCCTGGT | TGATAACGCT | GGCCGCTTCC | ACATCCGCTC | 180 |
| | CGGCGTGCTG | ACAGACCTAT | TCCGGACGCG | GAGCGCGGAC | TCACCTCCGA | GCTGGGACGC | 240 |
| | GCCGCCGTCC | TACGAGTCGC | GCGTGACGCA | TCCGCTGTAC | GATGGCGACG | TAGGCTCGCT | 300 |
| | TGCTTCCGGC | AGGGGGGCCC | CGCCCGATTG | GGCGGCGCCC | CGCCCCCGCG | CCCGAGATTC | 360 |
| | GCCACTGGGT | CTCCTTCCGC | CCCTTCACGC | CTTGTCGTTG | GATGATCTAA | GCAGGGTCCC | 420 |
| | CACGTACCAA | CAGCAGCACG | ATGGACACTC | CCTGCCATTG | CATCACCTCT | CCCCGCGTA | 480 |
| 10 | TGCCGCCACC | GCGCCACGNG | CCGGGGGGCA | ACAGCGCACN | TGACAATCAC | TTNTGCGGTC | 540 |
| | CGTCGCGGGC | CCCCGGACCC | CCTTGCGCCC | TTATTCTGCC | CCCCCCAAAC | CNACNTGCM | 600 |
| | CCCACTGGG | TCAAACCGCG | GNGTGGNAA | TTTNCCTGNT | CNGNNNNCNG | NNCNGGTTT | 660 |
| | GGGCCCCCCC | GGTTNCCCCC | CNNANTTNGC | CCAANCGGAA | NCCGGGGAGG | GTNNNGTGN | 720 |
| | NNCNGTAAAA | ACTTNTACCC | CCCCNCTTTG | GGTNCNNGGC | CGNGGGGTTT | TTTTTTTCCC | 780 |
| | CGGGGNGCCC | CCCCCNNGGG | ACCNTTNGGG | NACNATT | | | |

1285UP

| | | | | | | | |
|----|--------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTCTTC | ATGACGCTAC | TGTAGACAGT | TTCACAACCG | ATAGCCTGAA | GACACAGTAC | 60 |
| | AACCAGAGCA | AAAGATATCA | ACTGTTTCGG | ATTCCGTATT | CGGAGCATTG | CAGCTTTAAG | 120 |
| 20 | GACCTAAGTA | TTTTCCGAAC | CACGATCCAG | ATGAACGCCA | TTCGATCTAC | AGTGAACCTG | 180 |
| | GCCTCTTTGG | AGATGCACTG | CATGTGGTTT | GACACTTGGT | CTCGTATTAG | AAACGAAAAA | 240 |
| | TACCTGCGTA | AATTATGATT | ACATGTTATA | TATAGTAAAA | GATAACACGC | CACTCAGTGT | 300 |
| | TAAATGGTCC | ATCATGCCTC | TAGGACTCGT | TGTCGTTGCT | CGACAGAACT | GCAGTCCCCA | 360 |
| | TTTGCCCTGGT | AGGTTTTTGT | GAGGCTTTTT | GTCTAATTGTC | TAATTTAAAG | TCCTGAATAT | 420 |
| | TATCCTCCAA | TTGTGGAATG | AAAGACACAT | TGACCACTAG | AGGTTTCAGC | CGATGGCTGC | 480 |
| 25 | AAAACGGCAT | ATTTGTCTAT | CAAAATCATG | CGCTGGTCCA | ACAGTTTAAT | AATGTCTCTG | 540 |
| | GAACCTCGAC | TACGTCCGGA | ACTCGTCTAT | CATCTGGAAT | ACCNCCTCCT | GTTATGCNTT | 600 |
| | ACCATANTCC | CCTCCCTTGG | TGGCCNAATT | CTTAANCAAT | TTTTGNTTAA | ATNCCCCCNT | 660 |
| | GCTTNNCTAA | GGTNAATTCC | NNTTGGCCCC | CCCCCTCGGG | TTTNTCCGTT | CTTTGGAATG | 720 |
| | GAGGAAGCCC | AGGCTTGNC | CCCAATACNC | GCCCTCCGGG | AAGNGTCTC | CTTNGCCTTN | 780 |
| 30 | CCCAN TG GGN | TNCTTGGGTT | NGNNGCAAAN | CNACNNCNGG | CCCTCCTNEN | C | |

1286RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGCACCT | ATAATGAAGA | CCGGTTTTTT | TTTATGAGAA | ATAGCAGCCC | TCCAGGGGTT | 60 |
| | ACTTATTAAA | TAGCTACAGT | AAGATTAGGT | TATTCGTTTG | CAAATTCATT | GGTAGATCAA | 120 |
| 35 | CTTGATACAT | TCAAATAATG | CTTCGCTGGC | ACCGTCATAA | AACATGTTAT | GCCCCGTGTT | 180 |
| | GACAACTACT | CTGAAGCTAT | AGTCAGGGTA | TGCGTGCGCA | TTAGCTGGAC | ACACCTTATC | 240 |
| | TTCACCTGCC | ACCAAGACAT | GCCTGTGCA | CCCGCTGTGC | AGCAAAGGTG | GGCCGTTAAT | 300 |
| | TAGGTCTTGC | CAGCCTAGAA | GATACTCAGT | GATGGATTTG | GTCGAAACTG | CTACACCGTC | 360 |
| | GTAGAAGTGA | TTTAGCTTCC | TGTACTTGTT | CCCCATGTTG | GAGAAAAAGA | ACTTAATTCC | 420 |
| 40 | GGAGCTGTTT | AACCCTTCAT | CTGGTCAAAA | TTGGTCC TTA | TGAATTTGAG | AAGCATGATC | 480 |
| | AAGAAGGGCT | TGAAGAATGT | TAGTGAAAGG | TTTAGATATG | GCTCGACGAT | ATCCAACCTT | 540 |
| | GATTTGAGAG | TTCTAGGTGG | CGGCGGCGCC | AATAGAATGA | TCTTTCTGCG | TTCAATTGTT | 600 |
| | GACGCCGTAT | CCTGAAGGCT | AATGCCAAGC | CAAATGCACC | CCATCNATTG | CCCAAAACTC | 660 |
| | CCACNGACAT | TATTATGGTT | GGCNCGTAGA | CCATGAATCT | AAACCCCTTA | TCACNCACCC | 720 |
| | CCCCACANG | GTTACCATCG | CCCATGTCCC | TTCCCCANCC | TGAGNTCNAC | CCCATTTNCC | 780 |
| 45 | CCCTATTTNC | CACATATCNT | CC | | | | |

1286UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTCGCA | GCCAGCGCGT | AGTCCACCGG | CGTCAGTCCC | TCCGAGAACG | CCCCGCCGTG | 60 |
| | CACGTACAGC | ACCACCGGGT | CGTCTGGGTG | CCGCTTGTCG | GGCCGCGACA | CATACACCGC | 120 |
| 50 | GCGCGCAGTC | CGCTCCGCG | CCGAGCGCG | CGGCCCCCG | AGCTCGAACA | GGTCGCTATC | 180 |
| | CTGCACAACG | TACGTCTCCT | CCAGCACCTC | GCCGCCGCGC | TGGAACGACC | GCCGCCGCTG | 240 |
| | CCACCACGGC | ACGCACGTCC | CGACCGACGC | CCGCAGCGCG | GCCGCCGCGG | CCGGGTCCGC | 300 |
| | GTGCCGCGCG | GCCTCTACGC | CCAGCAGTCC | CAGCAGCGTG | CGCCGCCCGG | CGCGCCGCAC | 360 |
| | CACCGAGTAT | ACCAGGCGCG | CCAGCGCTGC | CGGCACGCCC | AACCCATAGA | ACTTCAGCAG | 420 |

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|---|-------------|-------------|------------|-------------|------------|------------|-----|
| | AAACGCGAGT | ACGCTCCACG | TTTTGTTTGG | AGATCCCATG | ATGCCGGCCC | GAGGGACGTC | 480 |
| | GACGCCCCGCC | ACCTGACGGG | GCGGCTACTT | ATACACCACA | AGATTCTATA | GAAAAGGAAT | 540 |
| | GCGACCAACG | ACGAACGGTG | TATCGTTTGG | GAAAAAAGG | AGTCCCCCAA | CTAAAGCTTG | 600 |
| 5 | CTTGCTGGCT | ACGAGTTTGT | GTTTCAGGTT | TCTTCATAGC | ATCCCAGTTG | TTTTGTTTGT | 660 |
| | TTGGCAAATC | GCAATATGAAC | CATAAAANAT | CAAAANNITGT | ACAATTGCTG | CCGACCGTTG | 720 |
| | CCCCATCCNC | CGGCGAAANA | TCCAGAAATC | GAGANAATTT | CAGACGCCGG | GTTTGCCAAA | 780 |
| | NTCCCGAAAC | CCCAAANTCC | CAACATTCT | GNCACATTTG | ATTCTGNINC | NNNCA | |

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1287RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCCACTG | GTATTAGGTG | TCTGAACACG | GCCAAATAAA | ATACGCAAAA | TGAAGGGCAT | 60 |
| 5 | TAATAATCTT | TCATCAGTGT | TGACAATAAC | CCTTGACTCA | TTCTGAGCAA | ATAACTTTGT | 120 |
| | TACTTCGTGG | TTGAATAACG | TGTCATCTAA | TAAGTTCTTC | AGATTGTCCC | TATATTTCAC | 180 |
| | AGCTACTGGA | TCCTTGATG | CTAACAACGC | ATCTAGGGCC | AGTTTCTGCA | CTTCCAGCGT | 240 |
| | TCGACTACCC | AATAATTCCA | TCAACCTTTG | GCGGACATCT | TCGGATTGTG | AAATAGCTTT | 300 |
| | GATATTCTTG | AACCTGCCCA | ATAATTTCAA | AATTAGATTTC | CTATCCGTCT | CAGACCATGT | 360 |
| | ATCCGCAGAG | TGCACTGCTA | ACTCACCCAG | ATGGTCTTCA | TCTTGGTTGG | CATCGAATTG | 420 |
| 10 | ATCATTGCGT | TTTAAGACAA | AAGGTACAA | GAATCTGCTA | TTTTGCTCCC | GCGAGCTGTN | 480 |
| | GCAGCGCGAT | TAATATCTTC | AATGCTTGT | TCTAATCATA | CCGGATATCC | GAGTGAACCG | 540 |
| | CGANCCCCCT | TAAGGTTTTT | CAACCAAGGA | TTTTTCGAAA | NCAACATNCN | TTTNGAACNT | 600 |
| | TCCNAANNC | AATAATTNAT | CCTAAAAAAT | TTNTGCCCN | NTCCAAAAAN | TCCCNAGGG | 660 |
| | GTNNAAAG | TGGCCCCAAA | TTCNAAATNA | GNNTTTTTN | GGNTTTTNC | NAAAAAAAT | 720 |
| | CCCNCCCNAC | CNCGNNTTTA | ANAAATTTTG | GGAANCCAT | TCCCCCCCCA | AGGGGAAAA | 780 |
| 15 | AGNGTGNNCC | CNATTTTNA | | | | | |

1287UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGTGG | TGTTGGCCGA | TACCGTGACG | GAAATGGATG | TCCTGGCCAT | GCCCGAGATA | 60 |
| 20 | GATTTCTCTG | ACACAACGTC | CTCCTCGAAG | GGCCTGATGC | GGCGAGAGCG | CTCAATGGAG | 120 |
| | AGGCACGTAC | AGGGCGCGAA | CACGGTCACA | GACCCATGGG | ACATGTCTTT | GGAAGTGGGG | 180 |
| | AGAAGATACG | CCCCTGACGA | CGACCTGGAG | CAACAGACGT | CGCTACTGGA | CCTCAACTTT | 240 |
| | GAATCAGTG | ACATGCGAA | CTCCAAATCT | TGGGGTGAAG | GGACGACAAA | TTCCGAAGAG | 300 |
| | ATCAGTGCCA | ATGTGCTTGC | AGAGTCGCAA | CGCCAGGAGC | TGCCCGGGAA | CGAGGGCATT | 360 |
| | GAGCGTGAAG | AGGATCTTGA | TTGGAATCTG | GGATTACGGG | AACCAGCAAT | TGTAGTCCCT | 420 |
| 25 | TCAAGCGATT | TTGAACACGA | TAACAGCATA | GAAGTGGGCC | GGAGAGCAGT | CCCCGAATGC | 480 |
| | GGACCTTCAG | GAAACTGTGG | ATTGGGATT | CGACTTGGAT | ATTGCCAGGG | TTGACATTGA | 540 |
| | GGCTACAGCC | GGCGAGCAGA | TGCTGGCAGT | TTGCATCTGA | GCTTTCCGGA | AGTATAGTAC | 600 |
| | GTCTTCTCTG | AACACTGTNC | ACANCCAAAA | CAAGAAAGGC | ACCTGGTTAT | CAATTCTACA | 660 |
| | TTCAACCCCA | CCGGATTACT | GAAAGGTGNT | CNAAAACCCC | CCCNACANTG | CTCCNTGANT | 720 |
| | ACCCATCCCN | NCCCCATTCT | NCCCNAAAA | GGNTNTCGAC | CCTTTTNAAT | GATCCTNCAA | 780 |
| 30 | TTTTGCNTGA | CATCCTGCTC | NTTCCAACG | AGNCCCA | | | |

1289RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGGGATT | GACCGTAATA | TTTCAGCTTT | TTGATGTGAA | TTGCCAAGAG | GACCAGCGAT | 60 |
| 35 | TTGAATCTCG | CTGACTCTGT | TGTGAGTAAT | TAGTACAAGA | ACCTGTGGCC | TGTCACAATT | 120 |
| | AAGCCCTGGG | AATAGGACTT | CAACTTCAGA | AGCCCACGAT | CGTCAAGCGA | TGATACAAGT | 180 |
| | GCCTACCAAC | ATTGACTTAA | CATGAAAATT | GATAGCATT | TTATAACAA | GGAAGCAAAG | 240 |
| | GACTAAGTCC | TTACAGTGGT | CGCCAAATGA | GCCTGTTAGC | AGGTTTCGGC | ATATTCCTGG | 300 |
| | AAGATGTCAA | CCTTCCAAAA | ATATTCTCTA | GAGCATTAA | TATCATTTACA | CAAGCCCTTG | 360 |
| | GTGTGAGACA | GAATCTTGAG | AGGTGCTGCG | ATAAACTCA | AAATCGCAGT | GCTTGGATTA | 420 |
| 40 | TAGGGCTTAT | ATACTGATTT | AAGTGGTGGT | GGTTATCTAT | TCAGGGTTGT | ATAAATTAAA | 480 |
| | ATATCACAGT | CGGTATACTC | TTACACACTA | ATTATAATCA | CGTGATATTT | GACTATTTAT | 540 |
| | TACACCAGGA | CACCTCGCTA | TGAAAAATAG | AACAGGCTGA | TGGTATTTAA | ATCTGAAGAT | 600 |
| | ATCGCCAACA | TTAGAACACA | CTACTGACAC | AACGGCCAGC | CATTCGAGAC | TATGGCTCGT | 660 |
| | ACTACTGCAN | TACTGTCTAT | CTTATCTGAC | NCCTGACCNC | TGATTGTTGC | GGAAATCCNT | 720 |
| | TTGATCNGCA | AAATCATNTC | GNTGACCNCA | ANTTCTACTN | TATTAACCCC | CCCACCGCCA | 780 |
| 45 | ACCTTTG | | | | | | |

1289UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCAAGG | TGCCCCAGGA | TGACGGAAAG | TTGCATGTTT | TTTTCCGGCG | TACAGGCTCG | 60 |
| 50 | CTTTCCGTAC | TGAAGATTAA | ATCGATGATC | AAAAAACTCG | AAGAGATTTA | TGGTTGGGAC | 120 |
| | CATATATCCA | TTCAAGTCAT | ATTAACCTAA | GCCGCTGCGC | AATTCCTTTC | TAATAAAAC | 180 |
| | CCCAAGAAAG | AGAACCCTTA | CGTGCTGATG | GAAACAACT | CATTCTCAA | CTCCGTGGCT | 240 |
| | CACCAAGGGA | AACCTGCAAC | AGAACAACCT | AGACGCATCC | TACACTGCGG | TAAATAGCGT | 300 |
| | CTCCAATACC | CCTGCAGTTG | GGGGGCGCAC | ACCAACGCCA | GCAGATCTTC | TCCAGGGCGC | 360 |
| 55 | AGCGCCGCAA | GGCGCGGGCT | CCGGTCTAAG | CCAGGGCGCA | GCTGCGGCGA | AGATTGAGCT | 420 |

CCTCCACAC ATACAAGTCT GGACGGATCA AGACGAGTGG GACGTGTGGA AGCAAAGAAC 480
 AGATCCGTAC TGCATATTGA ATTACGCAGG TGGGCGATAT CCTTGTCTGC GCGCCACTTA 540
 CGCGAATACA CTTCCAAATT GCCCTGGGCC TTGTTAAAAAC CCGCGAACAT GTTCNTCGGG 600
 NNTGNAACCA NTTTTCCAAT TCTNCNCCCA NCCGNGTTTN GNGNTNTTNA ACCCCCCCCC 660
 TACCCCCCNA AAAANAANAA NAAAAACCCC GTTNTCNGTG TTTCAACNCC CANAAAAANAG 720
 GGTNCCCCGG GAAAACGAAC TGGGGGGAGA GAGAGGNANN AAATTNCNAN AATCCTTTTA 780
 NCCCNNGG

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GATCGTGCAC GGCAAGACGT CGGAGCTGCG TCACGACGGG CGCGGGCTCT TCCAGGGGGT 60
 ACCCCAGGCC GTGGCAGTGA CACGGTACCA CTCGCTGGCT GGACTGGCGT CAACGTTGCC 120
 GGCGGAGCTG GAGGTGACGG CGCGCACGGA GACAGGCGTG GTTATGGCGG TCGGGCACCG 180
 CAAGTACACC GTGGAGGGTG TGCAGTTCCA CCCGGAGTCG ATTCTGACGG ACCACGGGCA 240
 GCTAATGGTG CGCAACATGC TAGCGCTGGA AGGCGGTACG TGGGCTGAGA ACGACAAGCT 300
 CCAGCTGCGG GCAGGCGCGG GCTCTGTGCT GAGCGAGATA TACGCTCAAC GACAGGAGGA 360
 CATGGCAGCG CAGATGGCTA TGCCGGGAAC TGGTATGGCG GACCTGGAGG CGAGCTTTTCG 420
 ATTGGGGGTT CTGCCGGGCG TGGTGGACTT CCATGAGCGG CTGGCGCGGG ACGCCCGCGG 480
 CTGGCTGTGG TAGCCGAGAT AAAAGTGCGT CTCGCTCGCG TGGCAATATT AGCGAGGCGC 540
 TTGGCNCCAN AANANGCGCT TNCNTNTTGC CGAAGGCGGA ATTTTCCGCC ATCTCCGGTG 600
 CTTTACCGAA CCCACTGTTC TAAAGGGACC CGCNAGANCN NAATTATTNC CCGACCCNCC 660
 CTTTGANAAA AACNANACTG CCCAANACC GCCGCGTTTG CTNCTTTANG ANATCTTTAT 720
 TNTCCNTTCC AATNTTTGAA GCCCGNTTNC GGCCNACAA TCCCTTATT TTNAATTTT 780
 NAACCACCCC CCCCCAGACC NTTTTTTTTN CCC

1292RP

GATCCGTGTA TTTTTATTT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60
 TTATAAAAAA TAATTAGTGC ATTGTTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120
 ATCAACTAAT TGTATATAT TTATTAAATA TTAATTTTAC TTAATTAAGA ATTAGGAACT 180
 TTATCTATTA GTCTGGGCTG TTTCCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240
 ATATTTAATT TTAGATTAAT AATATATTCT GAGATTTAAT ATTTTAAATA AAATAAATAA 300
 TTATTCCTTA AATAATATTA ATAACATATC CATATATATC TAATATTTAA ATAATCATAC 360
 TAACATATGT TTCGTAGAAA ACCAGCTATT TGCAAAATCAG ATTTGACTTT CTCTACTTAC 420
 CATTATTCAT CAGATAATAT TGCTACATTA ACCTGTTCAA TCGTTTTTAT ATTTTATTAT 480
 ATTTTAAATA TAATAAATAT ATATTTTAAT CATTTGATAA TAGTAAGATC ATCTGCTTTT 540
 GGTTTAATTA ATATTAACCTA AATTTAATTT ATTTTAATTA ATTTTACATN GTTAAANATT 600
 TAAATTAATT TTAAACCAN TTTTATTTTN AAATTTTGNC AAATTAATAC TGGGGGNC 660

CTTTCCAAGG GGCCTNNTN NATTTTTTNA AAAAAATAAA AAAGGGCNIN ANAAACCTTT 720
 TAAAANTTCC CCNNGGCCCC NNAANANTNA AANATTTNAC CCNAAAGGTC CCN

1292UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCAGTTA | CTTAGTAGAA | TGATAAATT | AATAAATATT | ATTTATTAAT | ATTTGGTTAA | 60 |
| | CAATAAAATT | CAATAATTTA | TTTAAATAAT | GATTAAATAA | TCTCAATATA | AAATTATTTAA | 120 |
| 5 | TATAATGAGA | TATATATTTT | TAAAAAGAAT | ATATAATTAA | ATAATCCCAA | CCAAAATTTG | 180 |
| | TGCCAGCAGC | TCCGTAAGA | CAAAGGGGGT | TAGCGTTAAT | CGTAATGGCT | TAAAGGGTTC | 240 |
| | GTAGAATGAT | TATTTAAAT | AATAATTAGA | ATTAATAAAA | ATAATTTAAG | AATTATTCAA | 300 |
| | GTAAAGATGA | AATAATAATT | ATATGAATAA | GACTTATAAA | GTGAAAATTT | AAATTATATA | 360 |
| | TTAATTGACA | TTGAGGAACG | AAGGCTAAAG | TAGCAAATCG | GATTCGATAC | CCGAGTAGTT | 420 |
| | TTAGCAGTAA | ACAATGAATA | CCTATTTAAT | TTTTATTAA | TAAAGAATAA | ATTAAATGAA | 480 |
| 10 | AATTAAGTA | TTCCGCTGA | TGACTACGTT | TGCAATAATA | AAAATCAAAA | CAATAGACGG | 540 |
| | TTCCGACTTA | AGCAGTGGAA | CATGTTTTTT | AATTCGATAA | CCNCCCANAA | ACCTTACCAN | 600 |
| | TTTTNGAATA | TTTAATTATA | ATAATTINTA | ATTATTACGG | NGTGCATATT | NTCTTCCCTC | 660 |
| | CGGCCGGCNA | GTTTTTNAAT | TATCNTNAAC | GAACAAACNC | CCATTTTTTT | TTTNANAAAA | 720 |
| | ATTATTTATT | TTTTGAATAT | TNAAAAAAA | TAAANATCCT | TTNTCCTTTT | TAATGGNNGA | 780 |
| 15 | GTNTTTTTTT | TTNTTCNN | | | | | |

1293RP

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|----|-------------|-------------|------------|------------|------------|-------------|-----|
| | GATCACCGAG | CAGCTGGTTG | GCCTCGGCAT | AAGCGCGCTT | GGTCTCTGCC | CACTGTTCTC | 60 |
| 20 | CAAGACCAAG | CTGCTGTGCC | TGGAACAACA | GGTTTGTGAG | CTGACCACCA | GGAATTTTCAT | 120 |
| | GTTTGTACAC | CTCTGGGTGG | GGGCCCTTGA | GGTCCGCTTC | GAAGCATGAG | TACAACAGTC | 180 |
| | TCATCTCCGC | CCAGTATGCG | TCTAGTTGCA | TGCGATGATC | GGGGTCTACA | CCCGTCGCGA | 240 |
| | TATCGCCACC | CAATGAGGCC | TGCAAGCCG | TAATGGAGGG | CTGGGACGTT | AAGCCAGACA | 300 |
| | TCCGAGTTGGT | GGCGACGTCC | ACAACATCGG | CGCCAGAGAT | GGCGCATTTG | ACCATTGATG | 360 |
| | CGACACCTGT | GCCTGCAGAA | TCATGTGTAT | GCACATGAAT | TGGGAGGTCT | GGATACTTTG | 420 |
| 25 | CCCTGATGTA | GCCAAATCAGT | AGCTTTGCTG | CACCGGGCTT | CATGGTGCCG | GCCATATCTT | 480 |
| | TAATACCCAA | GATATGTGTG | CCCCATGGCA | ACAATCTTTT | CAGTCAATCC | AGTAGTAATC | 540 |
| | AAGGTTGTAC | TTCTTGCTTG | CTGTAGCATA | TCACCTGAGT | TACAGATAGT | GCTCAACCAC | 600 |
| | CCTCCCGCTT | TCTTCACGGG | TNNAAACCCA | CTTCACTGTT | CTAGTCNTCA | CCCNCTCNAAN | 660 |
| | CTCTGAAATN | TCANNCATCC | CCTTGCTGTT | TGACAAATGT | CATCCCNNTT | CCGCNAAAGA | 720 |
| 30 | ATTAACACCC | GTGGCCCCAA | CNCCCTGAAN | GATTTTGCCC | NG | | |

1293UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTTACAT | CTGACAACAA | TACGCTGGCG | GCAGATGAGC | TGCATTGATG | GAAATTTTAA | 60 |
| 35 | CACAGCTCGG | GCAACCAGCT | ACACGGGATA | TATAAACTCA | ATGCACGCGG | CTCTTTACTG | 120 |
| | ACACAGTCCA | TCAGCATCAG | CACCACCCCC | AAAAATGAAG | ACTACACACA | TCCTATCCCT | 180 |
| | AGCAACACTT | GCCGCTGCG | CACCTGTTCA | GCCCCACCTT | GTTTCAGCCCA | CGGACCTCGC | 240 |
| | CGCAGCGGCA | AACGTCCCCG | AGAAAGCTGT | TCTCGGCTTC | TTCCAACGTG | ACAATGTGGG | 300 |
| | CGATGTGGAG | CTGCTCCAG | TGGACGACGG | CGCACACTCC | GGGATCCTTT | TCGTGAACCG | 360 |
| | CACACTAGCG | GACGTGGACT | ACTCCTCCGA | GCATGTGGTT | CAAAAAATGGT | TCCGTCTGTC | 420 |
| | TCTCCACCAT | GGGCAAGTA | TGTAAAGCCG | GACCAGAGAC | AGTTTGCCTT | GAGATATGTA | 480 |
| 40 | AGTTTACTTG | GTGTCTTACA | CCATGCATTA | TGACACGGGC | TTACGTACCT | GCTTCTATAA | 540 |
| | GCTAGTTTAA | ATGTTTCTTA | TGCGTATTAT | ATGGTTTACC | CGCGCCGATA | GTTTCGCAGAG | 600 |
| | GCTGCTGTNT | TAAGGCCNAA | CTTTATTCCT | AANANGGTGG | ATTACCCGGT | NGAAANAATG | 660 |
| | AATCTGAATT | GGCGAAATTC | CCGCTGGNCT | ATTANCTCCC | CNNCCCGTCC | NAATAAATGG | 720 |
| | AANATGGTGG | GGTTTAATAC | AAAANGGNCC | GNTGCCGGCA | ATGNACTGGA | TTAATTTCAA | 780 |
| 45 | AAACCTCCAA | NTACCCCAA | NTGGN | | | | |

1294RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGGAAT | GTGCTCAAG | CTCCGCTGCT | TTCGGCTGGC | CTCGCTGTTT | TCTGTGGAAT | 60 |
| 50 | CGTTTCTGGT | GGTCTCCTTC | TCCCATGTTG | ACCTTGGGTT | CAGCGTCTTC | AGCTGGTACA | 120 |
| | CCTCGAGAAG | CTTCGAGTTA | TGGAATGCAA | ATGGGTTTAG | CATCTCGACC | ATATTCGCTG | 180 |
| | CGCCACCTGC | CTGCCCCTTT | GGCCTTACAT | CGGGAATCCA | ACTTCAACGT | AATGCTATAG | 240 |
| | AAAACGCCAT | TGGCCTCGCC | GTCTTATCAC | GTGACTGTTT | ATTACAGCTCG | ACAAGTACTC | 300 |
| | GACTAGCACT | GCTGCTGCTT | TAACTGGGCT | ATACACTTTA | TATCGTTACA | TTACTTTCTC | 360 |
| | CGTGGTCCGC | GGATGGGTGG | TGGTGGCTTG | TGTGCAGACT | CACCTCTGAA | CAGAGGAGCG | 420 |
| 55 | TTCTTAAACA | TGTCTGGTAC | GACAAAGAAC | CTTACGTGCG | AGCCTCCGCA | CGAATACATG | 480 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | GTCCATATGT | GTCACCTGGC | CGTTCCGTGC | CGTCGCTGTC | ACGTCTCTTA | GCTGGCAGTC | 540 |
| | ATGTTGTCCT | CGCTGCCCAC | CAACTTGCCC | CGATAGTTTC | GCOGGTCGTT | ACTCCAGCAN | 600 |
| | ACCGTGNGC | TINGGCTTCC | TTCACACTTA | CAGGAATCCG | GAANTGCCAG | ATCNTACTTT | 660 |
| | TGGGTTGGC | CGTTTCCNTT | CCTGACANAA | ANTGGTTTAT | ATTTTGCCGG | AAAAGNTTTA | 720 |
| 5 | ATTTTACATT | TTCNAAACAA | CATANGTTGC | NTTTTTACNN | AACC | | |

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1294UP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCTGGAAC | TCCAAGTTCC | TGATGTCCTG | CTTACGCTTC | TCTCGCTGCT | CATGAATCGA | 60 |
| | CTGCTGCTTC | CACCGAATGA | ACGACCGCTT | GTCCACATTA | GGATGTACCT | CGATGTCCGA | 120 |
| 5 | GTCAATCCGAG | ATTTCTATCT | TGTCCCACCT | TGAGTAATCG | ATTGCCATTG | CACTACCTTG | 180 |
| | TTTCGTTCTG | GCTTCACTAC | TGTTGTCTCT | AGATCTTCTG | GATCCACCAA | TAAGTATAT | 240 |
| | CAAAGATTCA | TATATGCAAA | CGTCCAACCTA | AATAATGTTA | CACATAAGGA | AGGACCAAGG | 300 |
| | CAACGCCTGC | CCAGTTCTAG | CAACTTCTGT | GTGTCACTCT | CAACGATAGA | AGTCTGGTCT | 360 |
| | CGAGATGTTG | AGACCGTACT | CGGCCACAGC | GCTGCTGAGG | TCGTTGACGG | TCAAGGTGAC | 420 |
| | CTTGTTTCGCA | TTGGTCTTTT | CGTTTTGTGT | GTGCTGCTGC | TGGCTGATCT | GCTGTGTGCC | 480 |
| 10 | GGGCTGCTGC | TGACCGAGCA | TCAGTTGTCTG | GGCGCGGGCC | TGGCCGTTGT | TGGAGTTATG | 540 |
| | GACGCGAATG | AGGAGCGGAT | ACGGAATACT | CGTAGCGCTT | CGGCCGCTAT | GTGCTAACG | 600 |
| | AACTCTGGTT | GCCAACGCGA | AGAAGGCCTT | GACCCGANAT | CNGTGCACNC | CGAACCGTCC | 660 |
| | TGGTCANTTA | TTATCCATCA | CACNTCGGGA | AAAAGGGGGG | GGTTCCTCCT | AAGTCNAAAA | 720 |
| | CNCTTGANGT | CTGTCTCTGC | GGTGAATCGG | ATTTCCAAAA | CTTCTTTTCT | NGGGTTTGCC | 780 |
| | CCNGCGGCCC | CCNGGGGNGA | | | | | |

1295RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTTCTCT | TCAAATTGGG | ACGAGGTGCT | TAAGTCATCC | TGATCCTGCA | CAATCACGTC | 60 |
| | CATATTGGCG | GAGATCAGTG | CCGGTTTGGC | ACCAGAATCG | CTGCCCGGCC | AGGTGACTAG | 120 |
| 20 | CAATCCGAGC | TCGTTGACAG | TTTCCACCTT | TAGCTTACAC | CAAACCAGAG | GAAAGTCCCG | 180 |
| | CGACAGCTGC | TCGTGCAACC | GTTTGAACCT | GTTGTATGTC | TCCGTGTCGG | ACTTCACCGC | 240 |
| | TGTGCAGCAG | TCCGCTGCAT | CCACCACCCA | TGCCGAGGGG | ATCTGCACTG | CACGCTGTAG | 300 |
| | CTTCTCGACA | GTGAGATTGC | TGAGCGTCTGA | GTTGTGCAGA | ATTTGCTGGA | GGTGGTCTCC | 360 |
| | AAAGCCCCC | TGAGGTTTGG | ACACGTCCCA | GCACGATGGC | AGTGACGCCC | CAGTCACCTC | 420 |
| | CGAAGAAACA | ACAGCACTCC | GCGCTGTCTG | AGCAGAAAAG | CAGGCCAGCA | ACGCCAGCGC | 480 |
| 25 | CGTTGCAAA | GATATCGGTT | GCCCCAAAGG | CCAAGCTGCA | AACATCATTC | TGGTGGTCAG | 540 |
| | CGACTGCTTT | TCCCACGAGA | TCCGTGGGGA | CCATGCGCCA | GATGGCGCCC | TTAATATAAG | 600 |
| | CCCCCTCTCG | CCAGCATGAC | TTCTGCCAAC | TCCCGAACAT | CTTAAATGGC | CAGCTGTGTC | 660 |
| | TTTGATGGTA | CCTNCCGCNG | CTNCGGCCAA | AATTNATATA | CCATAATCCC | CNTCTTAAAT | 720 |
| | ATNCTTACAT | ACCACGCCCC | AAAGCGCTCC | CCGNAGCNEN | CCCGAGCCCC | CACCTTCNCC | 780 |
| 30 | NNAAGNANCC | GNTGNG | | | | | |

1295UP

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|----|------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCAACTTC | AGTTCTGCGC | GTTTGTGCGA | TGGAGGCCCC | CCAACGGCAG | ATAGCTTCTC | 60 |
| | AACTGTGGCG | GTACCTTGCA | CGGGCTCCAC | GACCGCTGTG | CAGTGGAAAC | GCTCGTAATT | 120 |
| 35 | GTCTTGGTG | TAGTGCTTGA | AGTACTCCAA | AGACCACACG | AATGCGAGGC | CTGCGAGGAT | 180 |
| | ATAGAAAACC | AGCGTCCCGT | ACCTACCGAT | TGCCATGGTT | GAAGCAAGGA | TTCCACTGCC | 240 |
| | GTAAGTACTC | AAATTATTGAG | TGCTAGCAAG | CTGATGTTGA | TTGTGTGATA | TCAAACGGTAA | 300 |
| | TCGGTCGTTA | AGGAACCTTT | TCAAGAAACG | CAAAAGAAAT | GCGTGCCTAG | GTGAGCAGG | 360 |
| | TGACAACCTC | ATATTACTCA | TAACAGTTAT | CTATCTAAGA | AGCGGCACTA | TCGATATACT | 420 |
| 40 | ATCAGCTTCG | TATACACATA | TATATCGGAG | GTTTATAATC | GCAAGTTAGC | TATAATTGCC | 480 |
| | ATCGAGGTGT | AATACATCGA | AGATTGTCTA | CGAAACTACT | CTGTCAACCA | CACATCAGCG | 540 |
| | TATGAACAAT | AACAGCAATA | TTATGACAGG | CAATTGCATA | AAAGTATTCA | AAGAGGGTTA | 600 |
| | AACAGTTAAA | TTCCGTAAAG | GTTTCAGNGAN | TATTCCCTGA | CACCCCATAC | CGAATCGCCC | 660 |
| | TGCACCAATT | GTTCAATGTT | TCANAGATTG | TCCGGGACTT | CATATGNACC | ATGTTGCCGC | 720 |
| | CCCNAACTCN | CATTATGTNA | ATGCTGTGNT | TCTTGACTCC | CCCGCTTGTC | CCAAATGCCA | 780 |
| 45 | TCCCAGGGTG | ANAGGTGCTC | GTGATCTC | | | | |

1296RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCATTGT | GCGTTTGGAG | GTACAGCCAC | GGACGTGGAC | ATGTACGTGA | TGAGCTTCGA | 60 |
| | CGGGCAGCTC | TTCATTCTGT | CGGCACGCAA | GAAGCTTGAG | TTCCCGACGT | CTCCGCGGGA | 120 |
| 50 | GAGTTGGGCG | TACCTTGCGT | ATTACAGCGG | ATACAAATTC | GAGCGCATGG | CGCTCCTGGA | 180 |
| | CCGTCCGGTG | GCCGAAACTC | CGCGCAGAGT | TCTGGAGAGC | CGCGGCAAC | AGGTCTGTCG | 240 |
| | CAACGGTCCG | CAATACAGGA | CTGTGATGAG | AACCGGCTGC | GGGGAGCACA | AGCTGGTGCT | 300 |
| | CGGAGCTGAG | ATCGACGGCA | TCATTGACTT | CCGCGAGCCT | ACGGGCGACA | ACCTGAAGCA | 360 |
| 55 | CTACGTGGAG | CTGAAGGTGT | GTGAGAGAA | CCGGAACCTC | TCAGAGAAAC | TTTCTCTCTC | 420 |

TTGGCTGCAA TGCTTTCTGG TGGGCATAAA CAGGGTTATT ATTGGATTCC GGGATGAGAA 480
 ATTCCCTCCTG AAGAGCGTCC AGGAGTTCAG TACGTCAGAG ATCCCAACACC TGTTTAAAGG 540
 GCACGGGAATA TTCCATGTAT GTTGTGGACG CCATAGATTG TATGGTGCTC CTTACAAATT 600
 GCTATNTGAC TCCCCCGGGC CCTGAAAAA NPTCAACTGT TACAGTCTCC TGCNNCATGG 660
 TGCTTACTTT TGCCCCACTG CCAACAAAA ACCCCCAATG GANAAAAATT TCCCTNGTTG 720
 GTCCCAATT GNGNGNCCC CCAATATANA AATTCCGNAT TATTCCCTTG TTTCCTTAN

1296UP

GATCGTACGG TTCGCTGCTG CGGTTTACCG ATATGGATCG GTTGTTTGCA GTTGGCGAGA 60
 GCACGGTGGT CGGTGTCTCT GCGGACGTCT CGACATGCA ATACCTACAG CGCCTGCTCC 120
 AGGACATGGA GATCGAGAAC AACTACGACA ACAGCCACGC AGACGGCGCG GAAGCGCTCA 180
 AGCCGAGCTA TATTTTGTAG TACCTTGCTT CGCTCATGTA CCAGCGCCGC TCAAAGCTGA 240
 ACCCGCTCTG GAACGCCATC ATCGTCGCGG GCGTCGAGGA CGGCCAGGCC TTCCTGCGTT 300
 ATGTGGACCT CAAGGGCGTC AAGTACTCCG CCCCAGCTT GGCTACTGGC TTTGGCGCCC 360
 ATATGGCCAT TCCTCTCATG CGTAAAGTCC CAGATGCCGA AAAAGACTCG CCGGCGTCCA 420
 CCTCTCAATT GCGCGAGCGA CTATCCTGGA GTCCATGAAG GTGTTATTTCT ACCGCGATGC 480
 GCGTAGTTCC CGTCGCTTCT CGCTTGCCAT CATCGACAAT GATGCCGGTG TTCAGCATGG 540
 AGCAACTGGA AGTGGAAAAC ATGACCTGGG GTTTCGCCCA AGGATATTCC GGGCTATGGC 600
 NCCCAAAATNT TTTGAATTAC CNGGGCCGCA ACGCCGCACC CTGTTTACTA TCTTGTTCGC 660
 GGNITGTCNCC CAACCGCTNG GNTATCCCA ACNTTCAAAA NGCNTAATCA TCTGCCCTGA 720
 ACCCCNCTGT TTTNGTNGAN ACCTTCNCCC CTTTTCNGA TTTCCCGGAT TGNCAAAAAAC 780
 CCTTTGAAAA AACATTNCCC NPTGGNAAAT CGATG

1297RP

GATCTCCTCG ACGCTGGTGA CCTTGC CGGC CTTTACAAGA CGGCCCAACT TGGTCACTGG 60
 CACCCAGCCC TTCTCCTCGA CCTCTCTTCT GCCCTTGCGG CCCTGACGGC CCTTGTCTTCT 120
 GCGCGCGAAG CCGCCTCTTC TTGTCTCTGG AGCTGACATC TTGCTATCGT CGGAATGGAA 180
 CACGGAAGC TGGGGGAGTA ACTTTCGATC GACGCTGCTG ATGTAGTTAC GATACAGCTC 240
 CGCCCGCGCG CTTGCGTGCT GAAAACCTGC CCACGGTCTG CGTCACCAGA AAGGAGGTCT 300
 GGGTGCTACC GCTGTTCGCG GCTCAACGAC GTGTCTGGGT TTCACACTGA AACCACACA 360
 TCAGACAAAC GCAGTCCCGG ACGGCTCGAA AGCAAAACCC GCGTGAAGGA GCAACGCGGA 420
 AGCTGCGCGG TCCGTGCGGA ATCTCGTCAA AAACAGGGGT CACAAAGGGA TTGGCGCTGG 480
 CGCCAGGACT GCTACGGGGG CATTTGCCCC GCGGGCAGCC CCGAGCAATG GAGCAACCCC 540
 CTTGCGGAGG TACGCGCTAC ACTGCGGTAT AAAGGCGGGC AGAGCGGTGG AAGCAGACAG 600
 TGACACACAG GAGAGGACAG ATGTGCGACN NCAAAATGAC AATCCTATCA ANAGGNGCGT 660
 CGGGGCCAAA CTATCAANAG NTTCGAAAGT CCAAACTNGC CAGATCAAAA GGCCCCAAAG 720
 GGAAAAAACT TCCCCCCCAC GACCCTTGN CATTTTAAAC CGCCNG

1297UP

GATCCAAAAA CAATGAACTG TTTACAATGT GGAAGCCGTG ACACAAGTGA ATGGCGCTCA 60
 GGACCGCTAG GAAGGAAGTC TATGTGCAAT GCATGCGGTA TCTGGTACAT GAAATTAAAG 120
 CAGCGGTTTG GGGAGGAGGA TGCTGCGGTG ATTATGGAAT ACCCGGAGATT AACTAATAGG 180
 CACGATGATC GCAGGGTGCC CAAGAAATTT GAGGTCCCAT TGCCTGAGGT CGAAAAAGTG 240
 AAGAGAGCCA TAAGAGCTCG TGTGTGGAG TATTTGAATG ATGTTGAAAT CCCGGTTAAA 300
 ACGAGGAGGC GGGCGTTATT ACATAAAGGC AAGCCGGGCA GTGCGTTAAA AACAGAGATG 360
 AAAACCCCTG CCGCATGAAG CACTGGAAGG ATGAAACAG TTTGTACAGC GGAAGGACAA 420
 TACCGGCGGG TAGGAAGGTA GAGACTATGC TGTGGCATGT AAGGAACGTA CTTTTATTTA 480
 TCTAACATAA CTAGGGTTCT TTTGACCTGN TACCTTTGTA TTAACCTTTG AANAACGTAA 540
 CCCCCNCCTT TTAAAAANTT TTCNNNTTGN AAATAAATCC CCTTTAAGA ACCCCCCCN 600
 NAANCAAAAC CTNTNCCCT TNGCCCAAAC CCACCCAGAA ATTTTCCCN CINTNCCGAN 660
 ACANNGTTN CGAGATTCCC CCNTTTNCGC CNAAAAAANC TCCCCCGAN TNTNTNCCAN 720
 AGNGCCCTTT TNCNCTCCCC NCCNANAATC CCCAAATTAG AAGGGGTNTT CNCCCNNGCT 780
 CCCCAGATC CAAAA

1299RP

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|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCTCCAC | ATTGAGACGG | TAGCAGCCCA | CATATTGCCG | TTGAACGCCA | TTAAACGGCG | 60 |
| 5 | CCATTGCTCC | CATAGAGCTT | TCAGATTTCC | TGTTAGGCTC | CAACTCAACG | TCATACTGGA | 120 |
| | GTTTAAATCG | AGTGGGTGCT | GTTGATATCC | AACTTGGAGG | CGTTCTTTT | GTCCTCGTAT | 180 |
| | CGCTTGAATA | GCCGCCCAGG | TCCCGTGGCG | AAAATCCATA | TATATCCATA | TTGGCCACCC | 240 |
| | AGCTTGTAC | ACATAGAGGC | AATAGTGCCA | GTAATGCCCTC | GAGCCGAAAC | CATGCAGCTC | 300 |
| | CCCGCGGAGG | AGGCGCCCCG | CAGCGTCCGG | TTCCATAGAC | GGCAAGCCCG | GCGAGTGCGG | 360 |
| | CGCACGCTCA | GCACGCAGTT | CCTCCCTGTC | ACGGTATGTC | CCCAGCCGGC | GGTGCGCACA | 420 |
| 10 | CCCAGATACT | AACACAGCAC | AGACGCTGTA | TCAGCTGATT | GTCCAACCCG | CGTACTATTT | 480 |
| | CACGTTTCTG | GCGAATGTGC | TAGTGCACGC | GTTCCGCGCAG | GGCGCGGCAG | TGCCCATAGC | 540 |
| | AGTGGCGTTC | TGGATGTCTGA | CGGTGGGCCCT | GGGCATTCCC | GCCCAGCGCTG | CCATTTGTGC | 600 |
| | TGCCGCACGC | GGTGTGGCAG | GGTTGTCTGG | TGGGTGCGGT | GTGCTGCCGC | AACTACCACC | 660 |
| | TGGAGTACAT | GGAGACCTAC | ATTGCGAGCC | TGCTCGTGAC | GGGAGAGGGG | GAGTCTGT | 720 |
| | TTNCCGATG | GGCTCCCGGC | GGTGGGCGGT | TCC | | | |

1299UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | ACGCTTTTGG | TTTTCCGGCGT | GATGGTGGGT | GGTGGTATAG | ACGATGTGAT | CTCCGGCTGC | 60 |
| 20 | AATTGTAAGC | CTTCTCTCTC | GGAGATATCC | CGCACGGAGA | AGTCGTCTAA | ATTTAACATT | 120 |
| | ACGTTCATGT | AATCACAGGG | CACCTTTTCA | AAGACACAGA | CGATCATGCC | ATTCTTACGC | 180 |
| | TTTGCCACACA | TGGACGCCCA | AATGAATTTT | TGTGTATGCG | AGGATGCTGA | CGATGCAGCT | 240 |
| | GAAGCAGGAG | ACGACAGCGA | TGTGACGCCT | GGTTGTATGA | CGCCTACTAT | TTCACTGTG | 300 |
| | AATACTTGTT | CTTGGCCCTC | TGTAGACATA | ATCTTGTAA | GGACAAAGCT | CCTGCTGTGC | 360 |
| | GTGTGTATCA | GGTCAAGTAA | AGTAAGCGCC | TTAAATGCCA | ATTTGGAGAT | ACCGAAGATT | 420 |
| 25 | AAGCATGCCN | AATCGTTAGC | CGCCCTAAAC | TGCCATGGGT | GATGCTGGGA | ACAGGTAAT | 480 |
| | ATGGCCTGAG | GTGCTGTGTA | CTTACCTGAT | ATAAAAGTAT | GCAGTATGCG | GGGCGCTTCG | 540 |
| | TACGTTCTGC | TGTAGTCTAT | CGGATCCTGG | ATAGATGTTA | GTTTATCGGT | AAATGGTTGG | 600 |
| | AGATAATTTT | CGTCTCGCA | GGCCTGTATA | GTAGTTTCTG | TGTTGAATAT | TCATGAAATG | 660 |
| | GTTGGGCTAA | GCTTTCAAGC | AGCTGCTTCT | TTAGTTCTTG | CTCATTACTG | ACTTTCTTCG | 720 |
| | CAGGATCTAC | GCCATCCGCG | TGGTGTCTGA | C | | | |

1300RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTCTCTG | CGCGGTGCAC | AAATGACGCA | GAAACAGGCA | TTCACGGAAT | TGAAGAGGCC | 60 |
| 35 | TCAACTGCCG | CCGATCGCTA | CAGGCGCAGT | GGGACGACAT | CCTTTCTTTG | GTGCGTATGA | 120 |
| | GGATACCTAA | ATAAGCACAT | ACAAAACGTT | AAATATGCAT | AAGGAGATAT | ATGCCGAAAGT | 180 |
| | TAAAGTGTTT | TTAGTGCCCC | TCGGCCACAG | TTGCGTGTTC | CAGCGATAAT | GGGAGACCAG | 240 |
| | CCCGGCACGT | GATCAGATAC | GGTTGTAGTG | GCCATACGGG | CTTGCGGACG | AATCTACGGG | 300 |
| | GTATGTTGCC | TGACGCTGCG | CCGGCGGGCT | CTTACGCTGA | GTTCCCCACA | GCCGTTCCCTC | 360 |
| | GTACTGGTTG | ACGTCTTCGT | CGTGCAACAG | CCCTCGTTTG | CCGTAGCGGC | CCCGACTGCC | 420 |
| | CCCGCGCTTC | TGCGCCTCGA | GATCGTAAGA | CCTCGTTGCTG | CTGCTCGAAA | AGCCCTTCTT | 480 |
| 40 | GCGCTCGCTG | TAGTACTCGT | CCTTGCCGTA | GTACCGCGCG | GCCTCCGGCG | TTACTACGGG | 540 |
| | CTGGTATACC | ACTTGTGGCG | CGGAGCATAT | ACTTGTGCAC | GCTGCTTCTC | CTCGCGCCCG | 600 |
| | CCGCTGGCGG | TGCCGTCTAT | AGCAGCAGCA | CGGCCAGCAC | AAGAGTCGCA | GATTCCNCTC | 660 |
| | ACCCCCCAT | AAACNCCGAN | TTACACCCCC | TATCCNATAC | CCAATTGACG | CTACNCAATC | 720 |
| | CNCTATACCC | CATCNTTGCA | CNCGGTACCT | ACTTTTCCCN | AANTGACCCC | CACNTNC | |

1300UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGGAG | TTTCCACTGG | AGGTGGCGCG | CTACATGACG | CTGCTGCGCG | AGATAGACGC | 60 |
| 50 | CAAGTGCGTG | CACACGGTGC | CGGAGCTTAA | CGCGCAGATA | GGGCGCTTCC | TGGCTGGCTC | 120 |
| | GCGGCAGCCG | GGAAGCCCGC | AGCTGCAGAC | CATCAACCGG | CTCTTCCAGG | ACCTGATGCC | 180 |
| | GTCCGTGGAG | GAGAAGATGC | ACGTCTCGTC | CATTGCGTTC | GAGACGCTCG | ACCGGCTCGT | 240 |
| | CGCGCGCGTG | ACGAGTGCCT | ACGAGTGCCT | GCTCAAGAAC | CAGGAGATCC | CCGACAGGCT | 300 |
| | GCGCCTGGGC | AACGACAACC | ACCTTGCCAT | GCACCTGCAC | CACGAGCTTA | TGAAGAAGAT | 360 |
| | CGAGTCCAA | CAGCAGAGCA | AGTCGACAGA | GGCGCTGCGC | TCCGAGTCCC | GCCGCGAGGC | 420 |
| | GATGGCGGCC | AAGAAAAATG | ACGTGGACCC | GCCGCGCGCG | CGCTTGTCTC | CAAAGGCCCC | 480 |
| | CGTCCCGNT | GGCCCCCGGG | CGCCCTTGG | CCGCCAAGCG | CCCGCGCAAA | CTTTCCCCCC | 540 |
| 55 | CGCCCGCCGC | GCNAGCGCAA | GAAGCCGAGG | AACAANTACT | CCGCCCGCCC | CCNAAACAAC | 600 |

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|-------------|------------|------------|------------|------------|------------|-----|
| AAATTTCGGGA | AGGCCTCTTA | CTGCTACTGC | AACCATTCNC | CCTACGGGAA | AATGTCGGTT | 660 |
| GCGAANGGGA | AAAATGCCNC | TCNATGGTCC | CTCCCCTGGA | TCACTCNAAA | CCTTACCGAN | 720 |
| GGGAAATGTT | CTGCAANAAT | GCAAAAAAAC | CCTACATACA | GNCCGGTTAC | TANNTCCCCC | 780 |
| CCCNCTNCH | TGCCTTNCAA | TGGGTTCNC | NT | | | |

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1301RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCCGCGAG | ATTCATCGTG | GACCCGCCAC | AGGCAATTAC | TATAACAACA | TCCTGCGGTG | 60 |
| | TTAAAGGACC | TAACTCACGC | TCAAGTATTT | CAGGATGATA | TCCTAGATGA | AGAGCTGCGC | 120 |
| 5 | CACACGCTGG | TTCCGGTTACA | A TATTGCTCT | CTTCCGCAAA | ATTTAAACAT | GTCTGTACTA | 180 |
| | CAGCGAGCTG | GTCAAGCACA | ACAGATTTTG | TCCTGTATTT | TTGGGCGTAA | CTCAGAGTAA | 240 |
| | GATCCGTCAC | GAAAGATGTG | CATAAAGAAG | TAGCAACGCT | TTTAGGATTC | ATCGAAACGT | 300 |
| | TCCTGCCCAG | CAGCAAAGAT | CTGTGCAAAA | CCTCGCACCC | CTCTGTTTCC | ACTGCTACAA | 360 |
| | CAGGGATAGA | GTCTGCCAAA | CCATGTTTTCT | CCAGCCCAT | TACAATCCCA | TTATATAACC | 420 |
| | CCCCGCCACC | TACGCTGCAG | ACGATACTCT | TCACGCTCTC | CAATTGCACG | CCTTGGAGAT | 480 |
| 10 | GCAGTGCTTC | TACTACTTCA | TCTACCATTG | TTGCATGCCC | TTCCCAGATG | AGTGGTTGTC | 540 |
| | GAATGGATGT | GCATATATCG | GAGCGACTTT | TTCTAATTCA | CATTCCCCAT | CAACTCCGGA | 600 |
| | CCGTAAGTTA | TCATCGCTCT | CTTTCAATAC | ACTTCCCAT | GANATCACAT | CNGCCCCCGT | 660 |
| | TGANCGGTTT | CGCTCTACCT | CCNCCGCCAA | TTNTTTTCNG | CCTACNCGGG | CAGGTNTCCT | 720 |
| | NTTNNCGTGA | CCCGTGGTGC | TGCACCCNTG | CNTGCNCCGA | CTCCCNAAAC | NTTTGGNTGC | 780 |
| | GNGAAG | | | | | | |

1301UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCATCTGC | GTGCGATACT | GGCAAAAAAT | GAGAGACAGC | ATGATGAAAA | TATAGTTAAT | 60 |
| | AAGATATTGC | ATGATAAAG | CACAGGCGGG | TTTCGTGCGA | GAGGAAAGGG | TGCACTTGAT | 120 |
| 20 | CTGGAAATGA | GTGAAAATGA | AGACCAAGAG | TTACAACAGT | TTAGACAGAA | AAGACGAGAA | 180 |
| | CTTTTGAAC | AAAAGATATT | GGAAATGGT | GATACTAGCA | AGCTCGTATC | TAACCCCAAG | 240 |
| | TCATACGCCT | TTTTCAGAC | GATGGTGGAC | GATGTTACTG | AAGCATCATT | TGGAAATACA | 300 |
| | TTTGATGCCA | ATATAGATGA | AAAAACAGAT | CCATCTGCTG | CAGGTCGGAA | AATTGTCATA | 360 |
| | TCAGAACAAT | TTGTAAAGGA | AACCCTGTCA | TTCTTGTCGA | GCAAGAGTGG | CGACTCAGAA | 420 |
| | ATCCCTGCAG | AAACTAAATC | TATTTTCATCC | AGCACAGTTG | AACGTGAAGA | AATTCAAGAC | 480 |
| 25 | TTTCATACAT | GAAGCAAAAT | AGTAACATTA | ACATTTGAAA | GGAGTCTAGA | CTTCTGCTC | 540 |
| | AGATGGCTGA | CTCAGCAGTG | AGATAGAGGT | GATTACNGCT | TTCTTTANAT | ANATTCCNEN | 600 |
| | GCCGCNAAAT | TTTTATATGA | ACTACTTCAC | AANANTTTTA | AAGTTGGCCC | CAGGGGGGCN | 660 |
| | ATCTTAAGGG | AATAAANATN | GCGTCCAAGC | CCAATACTTT | TNTNGGAAAN | NGTNGNGGTC | 720 |
| | CCCCCNAAAG | GATTTAAAT | CNACCAACTT | NTCCNCCANN | ACCCCCCCCC | TTNTTTTCNG | 780 |
| | NG | | | | | | |

1302RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAAGAG | CTTCTCGCTG | ACTTCGAACG | GCACAAGGTA | CCCAAGCTCC | TGTAAAGAGT | 60 |
| 35 | TATGAAACTC | CGTAGCGGAA | AGCGTGAACG | AACCGTTAAT | ATCATTGTCC | ACATATATCA | 120 |
| | TGCCCCACTT | CTTCAACGCG | TTGTATAACG | AAGTAAACTC | AGACAAGTTT | ACGGTACCAA | 180 |
| | AGCGCGTCCG | GCCAAACAGG | CTAATTAGCG | CGTCCACCGA | ACTCATGCAG | AACTGCGAAT | 240 |
| | TGTATCATTT | CTGTAGCAGA | TGCTGTAGCT | CCTCTGCTGT | GAGACGCTCC | ATCTTCCGGA | 300 |
| | CGTCGTGATT | CATGAATAAT | TTCTTTGCTG | TTATAGCATC | GGGGTCTTCA | TTAGGAACGG | 360 |
| | TGGCGGGCTT | GGCTTGGGTA | TGGTTCCGGT | GAGGCTGCTG | AGCTGGCTGC | GGCCTTGCAG | 420 |
| 40 | GCAAATPATA | GCTCTGTGCG | CTCGGTGGTA | TTGGCTTCCC | GTGGCCCGGC | AGGCCAGGCG | 480 |
| | GGCCTGTGGA | ACCGGAGGAG | GATTTCCTTG | AAGCTGCCCA | ACGCCATGCG | CAGGCCAATA | 540 |
| | CTATGTGTAC | AAAAATTGCC | GTGNTCCTGC | AAAACCTTTG | GTCTGTACAG | AACCCANCCC | 600 |
| | ATGGCCCATG | GAACGNNNTG | GNTTTTGGCC | CCAAATTAAN | CCCTGGANAA | NTGGGNAATT | 660 |
| | TTTGGCCATN | TTTTCNATT | AAAAANGGNG | GGGTNNAAGT | GCNAGGGNGC | CCATNTNGGG | 720 |
| | GGGNAAANTC | CGCGCCTTTT | TNTTTTNCAT | AANGGNCCNC | NTTGANNRNC | GCCCCNNRNC | 780 |
| 45 | CCCAC | | | | | | |

1302UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAACAAC | ATACTTCTAA | AGACATCAAT | ATACGCCCGC | ATGTCTCCGG | ATGAAAAACA | 60 |
| 50 | TGAATTGGTT | GAGAGGTTGC | AGTCCATTGG | ATACCAGGTT | GGCTTCTGCG | GCGATGGTGC | 120 |
| | GAATGACTGT | GGTGCCCTTA | AAGCGGCCGA | CATTGGTATA | TCTCTATCCG | AAGCGGAGGC | 180 |
| | ATCTGTGTCT | GCGCCATTTA | CATCCCGCTT | GTTTGAAATC | AGCTGTGTTT | TGGACGTAAT | 240 |
| | GAAAGAAGGC | CGTGCCCGCT | TGGTCACGTC | CTTCGCCCTG | TTCCAATACA | TGAGCTTATA | 300 |
| | TTCTGCCACA | CAGTTTGTGA | CAATATTGAT | CTTGTACAGC | CGTGGATCTA | ACTTAGGGGA | 360 |
| 55 | CTTCCAGTTT | TTGTACATCG | ACCTCTTCTT | GATCGTCCCG | CTAGCGGTGT | TCATGTCTGT | 420 |

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|---|---|---|--|---|--|--|
| 5 | GTCGAAGCCC ATATTGATTC TCGCGAGTCCA TTCCCANGAN GCTTCCGGTN CCCCCTTCCC CNCTCCCGAA | TATGAAGTAT CTTTGCTCGT GCATATGAAG NACNCAACCC GTCNCCCCN TGNCCCTCCC GTINCTCCAT | TGGCCAAAAA GCACATCGTG TGGTACCGGC TTCTTTNGTC NCCNCAACC GGTGGANNAT NTC | GCGGCCAACG ATTTGTTCGT AGCCAGTCGT TCCACTTCCA NAANTTCGAA TTCCCCCCCC CGAAACAAC | CCAATTTGGT GTTTCAGCTT CGCGACGACG TAAACCCCTGG AATTTTGGTT TATGGCANTT TGGCINNCTTT | 480 540 600 660 720 780 |
|---|---|---|--|---|--|--|

1303RP

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|----|---|---|--|---|--|---|---|
| 15 | GATCAGGTG ATTACTGGAC GTTGGGCTTT GGCGGCCATA CTGGAATTGG GCTCGCAATC GATCAATAGT ACGCTAGAAT CACTAGTAGA CAAGGGTGGC CTTTAANTTG TCCCGGGTGG CTTGNTCCGG | CCTTTATGGC TGCTTGTCAA GCGTCGTAA CCACGTAATC GCTTATCCTT ACTGCACTGC ACCGGTAAAG GTGGGAGCAT GCACAGAACG AAGTAATATC GGTCGGGCCC GTTCNANCCC AGGATTTTTT | CATACTTGTT GATCTTGCGC CCGGCAGAAA CATCTTTGTT ACAGTGTAC AAACCATTAT GCGTGACCAA GCTGGTTTAG TTGAGACTTA AATTGATTCTN ATCAAGCCCT CATTNCCCCA TNCCAANAAG | GGACTCATAG ACCCATCAGC AGATACCTTT GCCAAATAAT ATCAATTTTC CGTCCGTGATA TATTCTGCTG CGATATGGGA CAGCTGTTCG AAATGACTTA GACACTCTTG ATACANTCCA ANNNNACTTT | TATATCTCGG CCGACTATAC ATACTTTATA TACAATATTC TATCGTAATT GATAAAGATT AGCCTTCACT AAGTATAAGT CCCCTACGTT ACTTTCCCCC TANGTCCTGG TNAATTTNGC | CGACTGCACT TACATGTCTC ATACCAGTGA CTTTTAGCTA CGCTATCTCC ATAGGGTAGC GATGGCCGAG AGAACCCTGC TGTAAATTTT GAACTGCTTA ATGAAAAAAC CCCTTAACCA CAC | 60 120 180 240 300 360 420 480 540 600 660 720 |
|----|---|---|--|---|--|---|---|

1303UP

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|----|---|--|--|--|---|---|--|
| 30 | GATCTAAGTC AGTTATCGAG CAGAGTCACG GGTCCAAATC ATATATAGTC TCCCGTGTAC TGACTTGATC GCACTTTCTT GCCTTACTGG TCTTTTCATA GGNGAAATAC CCAGTTTTAN CCCCCAANT TTGTCTTTTC | CTCTCCCCCA ATGGTCCACA TGCGGTGTG AATGGACACC GTTAGTTTGG CTCGGCTGCG GGGCGACTGC TTCTGTAGGT GCTGCTGTG TGACATTCCC ACTCNCTATG AANTTTAAGT TTGCAANGAA AAGNACTTTA | AGCGGTGACG AGCTCATCCA AACGTGACAT TTTTCCAGCT ACCACGCAAG CTGATGACTT CACTTTGCCA GCTCGCGCTG GCTGCTGTTA NGTTGTGANA TTTGCCATATA CGGTTACCTT CCCCGNAGGC TAAGNCC | CAAGTGGACT CCTCGGATAT CAGACTTTCG CTGCCAGCGA AAACCGGTG TGCCAGTGA ATCGAGGATC CTGGTACTGG CTGGAACCGA CNTACTATTG TTTCCCNFAC ATATGTTGAA ATTGNCTCCT | GTCTGTCCCT ATGTCGCCTG GGACGGGCTT GCGCAAGAAC TTCTGTGGCT TGGGTGAGCG GTCTACAGTT ACTCCTCCTG AAAAGAAAAA GCCCCNAGAA CATATACAGC NCCCGTTATA TCANCAANNAT | CGGTTAATAA TGAGTAGGCG CCTAGCTCAG TTTTTGTCTA CCTGACGCTC CTCTTGAGGA GTAAACGGGC GACTGTCTGG TGACTTCCCC AATAAANTTAG CTGCTGATTC TGAAGAATAA TAAGNACATT | 60 120 180 240 300 360 420 480 540 600 660 720 780 |
|----|---|--|--|--|---|---|--|

1304RP

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|----|--|--|---|---|--|--|---|
| 45 | GATCAATGAG GTGGATAGCT ATTTGTGCCG TGAGATCAAG AAAACCGACG CGCAGCATTG TGCATACAAG GATCACGGGA AGGTTTTGGA TCTTGGTGGC TNGCNCCCGT AACCAACGNG TTCNCCNNAA | CGTGGCTACT AGATAAAAAT ACGTTCGCGA CCATTGCCTG AGATCTTGTA TATTTCTCTG CGGGCATTTG AAGCGACTGC CCCTGAAAATG ACTGGCTTAT AATACCAACN TTCAAAATCA GGGNGCCNT AACAAAATTN | ACTGATGCTT GCTATACATA CCAGTAGGAG TGCTCTTGCC CGCGCGGCAG AAGCGACTGC CCCTGAAAATG TCACAACAGC CCTAAGGATT TATNGGTGGG TTGAGATTTG NGGAGGAAGA | ACTGCAGTGC TATCTGTGCG GTTGTGTTCC CTCCCTAGA AGGCTGATCG CTGCCAATGG GCCGCGTTCC CAGTTGGAAG TGTNAAGGTC TCANCGNGTT TTGCNNGCGN GANACNCCCC GGTTTTANCC | TGTGTCAATA CATTGTGCCA GCGCGGTGCG TGGTAGGTGC GCGTCATGGG GCGAGATGCT AGGGCTGTAC GGCAAGCCTG CCGGOGANCT CCCCAACTTN GAATNTTCTT TCNAAANANA CNNTATATNC | TTACATATCG ATCTATATCT CAAATTCGCG CACTTGTAAT TCCGTTTGCC TGACAGGCAC AGACAACGGC TGTCCATAGG NCNAAAANAA ATTNTNTTTN TTCNATTTCA NTTGTCCCTT CCCCNCCN | 60 120 180 240 300 360 420 480 540 600 660 720 |
|----|--|--|---|---|--|--|---|

1305RP

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|----|-------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCAATGTA | TCCATTATAC | CCAGCTTTTCG | CAGCGACATA | ATATATTGAC | TTGATTTTAA | 60 |
| | AGCGGTAGAA | CTTTACGGGG | CTAGGGCCGC | TAGGTATCCA | AGGTTTAGCA | TCAGGATGCA | 120 |
| 5 | CGTCTGCAAA | GCACTTCTGC | AAGGCTGGAA | TGGGCTGGAG | TACTTCGAGC | TCACCCGCGA | 180 |
| | AGTTTGCACG | AGGTGCTTTC | ATGGGGTCTT | CAATCGATAT | AGACGCAACT | GAGAAAAGACA | 240 |
| | CGTTGTTATT | GTTTTTAGCG | TTTACTTGTT | GTAGTGTCGT | GTCGACCATC | AAAAAAATGG | 300 |
| | GCTGGCCGTC | ATGCTCTACT | CCCTCACATC | TGTCGGGAGA | AATATAGTAC | ATTCTAATAC | 360 |
| | CATATGGAGT | ACCGTTTTGA | TTGATTGTTG | TCAACTGGAA | AGAACTTTCG | TCTTTAATTA | 420 |
| | ATTTCCTGAG | TTGCAC TGCT | GCTTGTTGTT | CCTCCTGCGA | CGCTTGCGCG | AAAGCCGAAG | 480 |
| 10 | TAACTAGTGC | CAAAAAACAT | GTAAC TAATG | AAAAAATCGA | CTTCATTGTT | GCTATTGAGT | 540 |
| | GCCAAATAGGC | GAGACTCATC | CATATGTNAT | GAAAGCGTTT | ATANATCNTT | GTTNTGGCTT | 600 |
| | GAAAGAAATTA | TTATACTTTT | CCNGGCGGTT | ACATTATCTT | CCAACCAAAT | TGTTTCCTTT | 660 |
| | TNGANAGGNA | ATCCCCAAAA | TTTTTNAAAAT | TAATTNGTCN | NCGCANCGGT | TTTTTCCCCG | 720 |
| | GNGGGGAAAA | NAAAGCNGGN | NACCCGCCAA | ANCCGAATAA | AGGATTTCCA | TNAAAACCCA | 780 |
| | ATTNTCCNAA | AC | | | | | |

1305UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCCAAG | AAGAACATCA | AGATCCACGG | GTTCTAGGCG | CTATGTACTT | TGTGTAATCT | 60 |
| | AATACATATC | CTCCTCCTCC | TCCACCACCA | CCACCTCCTC | CTCCACGTCC | CTCTGCGCCT | 120 |
| 20 | CCGCATAGTA | CTCTCACACG | TACGGGAACA | GCTCCTCGCT | GAACAGCCTG | GCCAGCTCGT | 180 |
| | CGCCGTTGGC | AAACTCCTCG | CCCGGCCGCT | CGCCTGTCCA | CCGGAACCAC | GCAAAGAACG | 240 |
| | TCCCGTCTGT | GCGCTTCGGC | CACTCCATCT | CCACCGCCGC | GCTCCGCACT | TCCCCGTCTT | 300 |
| | CCCCCACCCT | GAATCGCTTC | CTCACGCTCT | GCGCCCGCAG | CCTGCCCTCC | ACCTCCCCGA | 360 |
| | ACTCCACCGT | GATCGCAAG | TCCACGCCC | CGGCCCCGCG | CCACTCCACC | TCCACCCGCG | 420 |
| 25 | GGATCGCCTC | CACGTACCGC | CAGTCCGCCG | CCCGCACGTA | GTTCCGCAAA | ATCCCGGTGC | 480 |
| | TGCGTCAGCA | CGAATCCCCC | AGAACCCCCG | GATCCCCCTG | ATCGCCTTGC | TGCGCCGCGC | 540 |
| | GTATACCGGC | CCCAGCGCCG | CTGCCGCTCC | ACCTCCAGCG | CCCGGTCCCT | CCGCTCCCGC | 600 |
| | NCCGCTNGGA | NTCCGGAAGN | GCTCCACGNG | CGGGCCTGCN | CCCGTTAGTC | CCCTGCCCGC | 660 |
| | CATTTAGGNG | GGGNNCGGCC | TTNNTTGTTT | NNNGAAGGNA | GNGTCCCGNT | TCCNGGGCCG | 720 |
| | GNTNNGTTTT | TGGGNNGGAG | NACGGNGTTT | TTGGANCNCC | CANTCNCGGA | NTCCTGGNGC | 780 |
| 30 | GAANGGNNGT | TNCCNCCNNN | TTGAGCCCCC | CT | | | |

1306RP

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|----|------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCTGATAT | TGGGTAATTG | CAACCTTTGC | ACCGCTTTGA | AAAGTACTTT | AGGAAGTGGT | 60 |
| | ATTTGCAATA | TAGTTTCATCA | TTGTAGTGGA | AGCAGGAGGA | TACCTTACAC | TTGGTACCGC | 120 |
| 35 | AAACCGTGCA | GCAGAAGTGT | TCCTCGTCAT | ATAGCTTACC | AAATGTATTG | TAATACACGC | 180 |
| | CGCTCAGTGG | CTTATTGCAC | ACATAACACA | ATAGCTTGTT | CCGCGTGAAA | TAATCCTGCT | 240 |
| | GGCATAGCAG | TACCACTTCA | GACGTATGCG | GGAGCTCATA | AGGGAAGAAC | TTCCGGCGAC | 300 |
| | ACAAAGCTCC | ACAATCGTGA | CAAAACCAGAC | AGTTTTTCATG | GTAGTAATCA | CCAAGCGCCT | 360 |
| | TCAGGGAGTT | CTGCGTGATA | ACCCCTTGC | ATTGTTTACA | GATTTTGGCC | GTTTTTTGAG | 420 |
| 40 | ATGAGGTGGC | GGTTTTATGCT | CCGCAGACGT | TCGCATTACT | TGCTCCGACG | CACTGTGTCT | 480 |
| | ATGGTTGATA | TGGTCACTAT | ACGTCCAGCA | ATAGCTGTGC | TTCTGTATAT | TAGTCATGAA | 540 |
| | AAACAGTAGC | ACTCCCTATC | TTACCCCTTGC | NGATCGTATT | GGTACCGCCA | AATNGTTAAC | 600 |
| | CCATTTTCCA | AGAACATTCT | ACCNCCTCCG | TTTTTGCCCA | AAGAGAGGTN | TGCTATATTT | 660 |
| | GCCAAACAAA | GCCCAACTGA | AATTNAANAA | ACCCCTTTTT | CCCCCTTTTN | TTTCTCCCGA | 720 |
| | GGAACCTTTT | CGGCAANTTT | CNCCCTAAAT | TGTNTGGGGG | NTGANANCCN | AGAAAANC | |

1306UP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCATTTCA | GTGGATGGCG | ACATTTCATAT | GGATATCAGT | TGCACTTTTG | TTTCCAGTCT | 60 |
| | TATTCCACTG | ATTTTCAGGT | TACAAGAATT | GGGAAGGGGT | CTCCATTTTG | TAGGGACGAA | 120 |
| 50 | CAATGTAAAG | ATGTCTCAGG | AATTCAAGAC | TCAGGTTGAA | ACGAAAAC TA | TTATCTTATC | 180 |
| | CCTTCTGTGA | GGGGACGATA | CCCTACAGAT | GATTATCCAA | CCCATCTCTT | ACGAACTGTC | 240 |
| | ACTACATACA | GTTTTCACTG | ATTTTATTTT | CATATCTAAG | GTACAAAGCT | CGGAACTAG | 300 |
| | GGATATCGCA | ATTATTCGGG | AAATTAAAAAT | TGGATATCAA | ACAGCCAATT | TTCAAGTGAA | 360 |
| | ATCGTACAAC | TTGAAATTGT | CGGAGACGCT | GCTAACATCA | AAGCTACGGG | GGAGTTGTTT | 420 |
| 55 | TCGAGCCGTT | GAAC TTTATT | GTTCTGATAG | TGACATCAAG | TTGCTTTTTG | ACGAATGTCC | 480 |

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|---|------------|------------|-------------|-------------|------------|------------|-----|
| | CCCCCCCCGA | AATGAATACC | CGCNATNTNC | ATTCCCTNAAC | GGAATTCCCA | AAACCCNTTN | 540 |
| | TNAANTAATC | CCTTTAAAAA | TTNATTTTTTC | CCNAAGNTTT | ACNCCCGCNA | ATTTTTTTCC | 600 |
| | CAAATGGGCC | CCTTANATGA | AAAAANACTN | CACCCCCCNC | NCGAAAAANA | ATTTTCNCTT | 660 |
| 5 | GGAAANTNNN | AAACGAATTA | TTNCNCCCT | TTNTCCCCC | CCCGAAANAC | ANTNTTTCCT | 720 |
| | CCCCCCCCTT | AGGAAAANTG | TTTTCCCCNA | TTTNANANTN | TCCNCCCNCC | CCCNNAACNA | 780 |
| | AAATNTTAAA | NCACCCCNIN | TTNTNG | | | | |

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1307RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCTTTA | TCTCATATTA | TAGTCCATAG | TACCCCGTGG | ATGCCTACCA | CACAGAGGTC | 60 |
| 5 | CCTCTTCTGG | ACCTGAGACC | TAGATATCTT | GCGATATCAT | TGAAAATATC | GTTCAATTGC | 120 |
| | TCCTCCGTGA | GCCGCTTAAC | TTCCGCCTCG | ATATCAGCAT | CGGGTGTTC | CGAGATGTGG | 180 |
| | AAGTTCTCAA | CTTTGCCCTC | CAAAAACTCC | TCAAACCTCT | CTTGTCTCT | CAGTGTCCGT | 240 |
| | GGCAACAAC | CATAAAATTT | CGCAAGCTTA | TACAGCTTCA | CATTGTCTAG | ACTTTCGAAG | 300 |
| | TGCCCCAACG | TGAGAGGGAA | TACGCCGTCC | TTCACGTCCG | GAATCTCACC | GTCCCGCTTC | 360 |
| | GGCAATGGAG | CCAAGAAGTC | CTTCTCCTCC | GACTTCGTCC | AATTCACTAA | GCGCCGCACC | 420 |
| | GACCGCTCTT | CCATCGTGTG | AAGCTGGCCC | TGAAGCTCCC | CCACTAGCTG | CACTAAGTCC | 480 |
| 10 | TCATTGGTGG | CGAAATCCGT | TGTATCAAAC | TTGCCCGCGC | CCCCTTTAGG | AAGGAACTTT | 540 |
| | TCGTCTAAGT | TTGCCATGTC | ATGCTTTTGC | TTGCTGACCT | GTAGCTCCAG | CACCGACTGT | 600 |
| | CCTGTCTTGG | TGATTAGGAC | GCTCTGCCGT | TTAACTAGCG | CCTGTAGCTC | CTCAACTGTT | 660 |
| | TCTTCAATGC | CTCGTCTGAC | ATAACGCACT | TCAAATTTAG | TAGAACGCTT | CTGAATATTC | 720 |
| | CTACACCAAA | CGCCGCAGAG | AGAATGGTAA | AGA | | | |

1307UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCACCAA | AGGGTATTTT | ACTATATGGG | CCTCCGGGGA | CAGGTAAGAC | ACTTTGTGCC | 60 |
| 20 | CGTGCCGTGG | CCAACAGGAC | CGATGCTACA | TTTATCAGAG | TCATTGGCTC | CGAATTAGTA | 120 |
| | CAGAAGTACG | TCGGTGAAGG | TGCTAGAATG | GTTAGAGAGT | TGTTTGAAT | GGCCAGAACA | 180 |
| | AAAAAGGCAT | GTATTATTTT | CTTCGACGAA | GTGGACGCAA | TTGGCGGTGC | TCGTTTGGAC | 240 |
| | GATGGAGCGG | GTGGTGACAA | TGAGGTCCAA | AGAACTATGT | TGGAACTCAT | TACGCAACTA | 300 |
| | GACGGATTGG | ATCCACGTGG | TAATATCAAG | GTGATGTTTG | CTACCAATAG | GCCGAACACC | 360 |
| | TTAGACCCAG | CATTGTTGAG | ACCCGGTAGA | ATAGACCCTA | AGGTTAGAAT | TCTCTCTTCC | 420 |
| | GGATTGGA | GGCCGTGCCA | ATATTTTCCC | GCATTACAC | AAAGTCCATG | AGTGTGAGC | 480 |
| 25 | GTGGTATTAG | ATGGAATTGA | TTCCAGTTTG | GTGTCCAAC | CCACCGGCGC | TGACTANATC | 540 |
| | TNGTTTGGCC | CGAGGCTGGC | ATTTTGTCAA | TCCAATTCCC | GACCCAGGTT | ACCTACAGAA | 600 |
| | ANGACTTCCT | TAAACCNCTG | GATAGGTCCT | CCACGGCTAT | AAAAATTAC | NCCCCCTCCC | 660 |
| | CGTTTNTTGC | AAACCCNAAN | CNNTCNCCCC | CCTTGNGGCG | TTTTTTTAAA | GGNTTATTTA | 720 |
| | TCCCAAANNNG | TNTTCCTTTT | ACNATACTAN | TGTTCCAATT | TCTATNAAAT | NTTNTCCCCC | 780 |
| | CCGTGAAANNC | CTNCCCCGTT | NGCACCCCTA | T | | | |

1308RP

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|----|-------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCTGTCTG | CTGGTACACC | GATGAACGAA | ATAATTGTGA | CCGTCACGGA | CTTCGAGAAT | 60 |
| 35 | GCACTTCGGA | AGATAAAGCC | TTCCGGTCAGC | GATAAAGATA | GAATGAAATA | CAATAAGCTA | 120 |
| | AACAAAAAAA | TGGGCTGGAA | TGACGAAGCA | GGCGTGCAAG | TGGAAGAAGA | AGCATAGAGC | 180 |
| | AGCAAGTTAA | ATAGGCACAG | CTATGTACAA | ATAACCAATT | TCAACTTGTT | CAAAGTCGTC | 240 |
| | CGCGTCTTAC | AGATTTTACA | CATGGAGACG | GCGGAATTTA | CTTGTATATA | TGCCCTCTCC | 300 |
| | TGCGAACGTT | TTTTCGAATC | TTCCAGACAT | ATTCCGTATT | TCTTCTTTT | CGAGAAAGAA | 360 |
| | ACATATGGTA | TTTCTCTATT | CCTGTAACCT | GAGCTTAGCA | ATTTCTGTGG | ATATAGTTCC | 420 |
| | GCAAAGAGGT | AGATCCGTGG | CACCTCTGAC | AAGAACGAAG | TTATTCTTCA | GAGAATGAAC | 480 |
| 40 | ACGGCCGGAT | ACATGCCCGAG | AATGTATATG | TTCATAAACT | TGCGCTCCAA | CATCAATGGA | 540 |
| | ATGGAATAAG | GCCAGCGTAA | CAAGTCCCAG | ACTAGTATAG | TCCAGCGGAA | TGCTTCAACA | 600 |
| | TTGGAAATACC | CGCACATGTC | ATATCCGGAG | CTCTTTGATT | GATATAACAA | CCCCCNCCCT | 660 |
| | NTTNTGCCNC | AAAAATCCCC | CTGATGGTAC | CCCTAANGGT | TCTTGCAAAA | GCGGAACCCCT | 720 |
| | ATCCCCCTGGG | AGCCNAAACC | CTTTACGAGN | AACNNATTAT | GGCCCGGTNT | TTNACGTCCC | 780 |
| | TNNCTGTGTC | N | | | | | |

1308UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACGTGG | GCCGTAAGTC | GCAGAGAAAC | TTGCAACTGA | ACTGCCACTG | GGGCTCATGC | 60 |
| 50 | ACCACCAAGA | CGGTAAAGCG | CGACCATATC | ACCTCCCACC | TGCGTGTGCA | TGTTCCCCTG | 120 |
| | AAACCTTCA | GCTGTCCAC | ATGCAGCCGT | AAGTTTAAAC | GCCCGCAAGA | CTTGAAGAAA | 180 |
| | CACCTGAAG | TGCACATGGA | GGACACCATG | AAAGAGCGTT | CGCGTGCGGC | GCCGGGCTCG | 240 |
| | CGTGGTGTTC | GCAAGACAGG | CGTTAACAAG | GGCTCTGCGC | TACAAGAGAA | GGCGCGCACG | 300 |
| | TTACCCAACC | TGACTGTGGA | GAGCTTTGTC | AGCCAGGAGA | TGCAAAATTA | CTACCCCTAC | 360 |
| | TACAAAAGCA | GACAGCACCT | AGACGAAACA | CTGTGCAACA | TTATTCTCCC | CCCCCCCAGC | 420 |
| 55 | CGCTCTAGGT | TGGTACTTTG | GCGTCCGAAC | CGCCAAGCTA | CACACGGAAA | GCAGTGTCTT | 480 |

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|---|------------|-------------|------------|------------|------------|------------|-----|
| | CTTCACGACG | CTGTGCGCAGG | ACATGTCTCG | TGGCTTGCTT | TCTCTTGCTC | CTTGCAACAG | 540 |
| | CCCCCGGCTT | GCGGTTAAGA | TGGTAATGCT | TCCCCCGCCC | CAGAACAGCA | ATATGCACGC | 600 |
| | CGTGCCCTAG | ATATCCCAGC | GATGCCCGGA | CTCCCTCCCT | TTGGTGACTC | TCCNGGANCG | 660 |
| 5 | AATCCCANCC | TTTGCCCGAG | ANACACTTCC | GACCCNCTCC | ATATCCCTGC | TCTANCTGCC | 720 |
| | CNCCTCACCG | CTTTCTCATA | AAATCGCATT | GTGCGCGCAN | CCTATCCTCA | TCAAGCCCCC | 780 |
| | TGATANACCC | TGNAAGAGAC | TGANTCCCCC | CCAAACC | | | |

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1309RP

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|----|-------------|-------------|------------|-------------|-------------|-------------|-----|
| | GATCAATTAT | TAGAGGCAAT | ATCAAAGAAG | TCCCATATTA | CTGAGGAGAA | CAGGGAACAG | 60 |
| 5 | CCTGGAGAAA | GAATGCCGCA | GACGTACAGA | TACACGCTGG | AAAATCAGCT | TGCCCCAGTGA | 120 |
| | GTGCTCGAAC | AGCCGATAAG | AGTATTGACA | GTGGTAGCGT | GCAAGAGTCA | ACGACAAAAT | 180 |
| | GAACAGAACA | TCATACTTCG | GGCGCGAGAT | GTTGAAGCTC | GACTTGGTCC | GCCCCGTGGAC | 240 |
| | CTTTTTTTGAA | GAAGTTGCGC | CAGGATCCCA | CGGCGGCCTT | GCGCGACGCA | GCAGGGACTG | 300 |
| | GTCTCCAGCG | CGCCAGCAGC | AGGGAGCTTG | TCACCACGCT | CACAGAGCTC | ATCGCCATAC | 360 |
| | CCGCGGCGGC | AGCCATGGGC | GGCAATTGTA | TGCCCCACGG | AATGAGGACG | CCCATGCTGA | 420 |
| 10 | CTTGGGAGCC | ATGAGAGAAAT | TGTACAGGAC | TGCCCCAGAAA | ATGTTTCAGCT | TGACCGCGTT | 480 |
| | AACGTGGCGC | GCGCGAGATT | CGATGGCATA | CAGAATGCGG | TTTAGCGGCG | GCGCCCAGAG | 540 |
| | AATGTCCCAA | ACCACGATTC | CCGCGCGTTC | CGCACGAAGT | CACTGTTGCC | GGACAGCGAA | 600 |
| | ATACCGAGTT | CNCTTTCACA | ATTGCCACAA | TTTCTTTGAN | GCCGTCTCCC | GATAAGGCAC | 660 |
| | ATATTNGTTN | TTTTTGCCGC | ACTGCCGCAA | NGTNCCACTT | GCCCCCCTGG | TACTTTCCCT | 720 |
| | GAACATTTTG | ACGGATNCCC | AANCGTGCAA | ACTCTCCNC | CCCGTGTTNN | CCCATACCAT | 780 |
| 15 | CCANTTTTTG | GCCNC | | | | | |

1309UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGACC | GCGGTCNCTG | ATTGATTTGG | CCATGAGTTT | AAGTATGACC | CAGAGGGCCG | 60 |
| 20 | CCCTGGTGTA | TCTAATCTGA | TTAACATCGT | AGCTGGCATC | CAGAAGAAGA | CTATCGCGGC | 120 |
| | GGTGGAGGCA | GATATTGCTG | GATTTAAGGA | CCACGCAACT | TTTAAAAACT | ATGTTACAGA | 180 |
| | CATCCTAGTA | GCTGAGCTGA | GGGGGCCAG | AGAGGAGTTT | GCCCCGTATA | TGAATGATAA | 240 |
| | ATCATACATA | TACGAGGTTG | AGCGCAATGG | GGCTGAGCGA | GCAGGTGCCA | TAGCTGCTAA | 300 |
| | AACCCCTGGCA | GAAATCAGAG | CGATAATGGG | TTATTAGTTA | TATTCAGATT | CCAACCTTGT | 360 |
| | CTATAGATTA | GCAATATAAT | TAAAGATACA | TCAAGAAGCA | CAAGAGCAGA | TGCGTAACGT | 420 |
| 25 | GTTGTCACTC | TTTGGACCTG | CCGGATATCA | GCACATGCAA | CCAATATCTG | CTTCAGCAGT | 480 |
| | CCCTCCCGCTT | CTCGTTAGCT | ATTGTGCCAC | CTGTATTCT | CCATCCGTTA | TACAGCCAGC | 540 |
| | TCAGCACATC | ATCCATCTAT | TTTGAGCCCA | TTCTGCTAGG | CTGATGCAAT | AGACTTCCAT | 600 |
| | ATTTGGTAAT | CATTGTCCCN | TTATTTTPTA | GGNTACCACC | ATCTNTTTTC | CNATGAAAN | 660 |
| | CGTGACAATC | CNCCNGTTTT | TCNACCCTCC | CTCCATNAAA | TNTCTTTCAT | CGTGGGTTTC | 720 |
| 30 | GGATCAANCC | CTNNGGNTCN | TCCCCTNCGC | CTCCATCCNG | GNATTTACAC | CCNTTNTTTT | 780 |
| | CTCCCCCCTC | ATNAANC | | | | | |

1310UP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCCAAAAA | AATTTTAAATA | CTGAAAAAGA | AATGCCACAA | CTAAGCTCAG | CTACCTTAAA | 60 |
| 35 | GAATCGGGAC | CAAGCTGTGA | AGGCAACAGC | TCTTCCAATG | TTGCTGTCAG | AACCTTGGAC | 120 |
| | CCGTCCGGCGT | TCATCATAAT | CACCGTGAGC | TTCTTCGGAT | CAACGAACCTC | GCGCAGGACC | 180 |
| | TGCCGGGCAA | TCCACACGG | GGTCACGACG | TGGGACGAGT | CCCCACTCAA | TGCGATGCAG | 240 |
| | ACCCAATTCCG | TATGCCCGGC | TGTTACCGCC | TTTACGACCG | CTGTGCGTTC | CGCGCAATA | 300 |
| | CCGGCTGGGT | AACCTGGCATT | CTCGACGTTA | GCGCGACAA | TATACTCGCC | TGACGCTGTC | 360 |
| 40 | AAGATGCAGC | AGCCACGCGC | GAACCTGGAG | TTATGGGCTG | TACGAGAGCT | CCTTCGCGGC | 420 |
| | TAGTGCTCGA | GCAACCGCGC | CCTGATATGG | CTCTCCCTGT | GTGCTTGGCA | TTGGCTTCCG | 480 |
| | TGGCGTCGCC | TCCTAGGTAT | TGGGGTTCCC | CTAAGTACTG | GCTGCGAACC | CTTATGTTTT | 540 |
| | TTGCAGGGGA | ACGAATTGCG | CCCGAACCCG | GTGAATCCCG | GGAACATNCA | ANTACCCNCT | 600 |
| | TTTGGNTNNC | GGGNAAAGGG | NNANNTCCN | NNCTTNGCNC | CGGCNGGAAN | AAANAATGTT | 660 |
| | AACCATGTGG | ANTAAACCTT | TAANATGANN | CCTATGGCCN | GTTTAACTTT | ATCCCCCNC | 720 |
| 45 | CCCCCCTTTT | AAANGTNNNA | NCCCCGCCNT | TNTACCTCTA | NNCCNGCOGG | GGNGCINNAN | 780 |
| | CCACAAATNN | TNTGTTGNGC | GCNGNGCGTN | NCTAATATGG | AGCCTNGGGN | | |

1311RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTATCG | TTACAGCGTAC | CGTCTGCAAG | AATCTGAGAC | ATAAACTTGC | GCTGCGACGA | 60 |
| 50 | GTTCTTGGTA | AATCTTTCGT | AGTACTGTGC | GTTGTCCGCT | TCCAACGCTT | CCTTCCCCCG | 120 |
| | CTTGTAACAGC | AGCTCCACCT | TTTCCGTGGA | GAGCGGCTCT | TGCTCGCGAG | AAGCCTCCGC | 180 |
| | GTCTAGCGGC | ACCTCGTGCC | AGGGCATGTC | CGCAGGCACC | AGAAGGTTGC | CGCTGCGAAC | 240 |
| | CGAGCGCAGG | TCATCTGACCA | TGCCGCGCGC | AGGTTCCTCC | CCGGCGGACT | CGGCATCGAA | 300 |
| | CCCCGCATCG | GACTCGCCCG | CCTCTCCGGC | GGACTCGGCG | GCATCGCTGT | CCTCTCCGGC | 360 |
| 55 | TTGCTCTTCG | GCTTGCTCCT | CGGCTTGCTC | CTCGGCTTGC | TCTCTGCTT | GCTCTCGGC | 420 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| 5 | TTGCTCCTCC | AGCGAATCCT | CCGGCTCGCT | GCTCTCTGCT | GCTGCCGCTG | CCGCTGCTGC | 480 |
| | CGCCGGCAGC | CCATGTTCCG | AGCAGCCCGC | TGACGTCGTT | CTGCAGCCCG | GCATCGCCGT | 540 |
| | CTCCTTCGTC | GCCGCTGAAT | GCCTGTTCCG | TGAGCTCGTC | TCCGTTCCGT | CAGCCCTTCC | 600 |
| | ACAGCGCCAA | GTTGTTCTTT | CTNAACCCCC | CANNGCCAAT | NGTTCNCGGG | CNTCATCCCC | 660 |
| | CNTTNTTTC | CTGGTTTCCC | CTTTGGTNGN | CCCCNGGNAN | ACTTTTTCCT | TGGCTTNCNN | 720 |
| | CAATTCCTTT | TTCATTTGGT | TTTCCCCCA | AAATTTTNAN | ANNGGGTTAN | CTNNTCANN | 780 |
| | NGGCNGNNNA | GAGAAACCT | | | | | |

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1311UP

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|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTTCTGA | TGCATATTTC | CGCTCTCACC | TTCCGCCGTTA | AGTTTTTCCA | TGTAGATAGC | 60 |
| | TCAAAGTCAT | CATCCCCGTC | ATCTTTTTTCA | GTGTATAGAT | TCTGTGATAC | TTCTCCTTCT | 120 |
| 5 | TCCTCTTCCT | CTTCTTCCCT | TTCTTCTCTCG | TCTATATGAT | CTTCGCCTGT | CAGTTCATTG | 180 |
| | TCTATTCCAT | AATTGGGTTT | AACTTTCCGGC | TTGGGCTCCT | TTTGCTGGCT | ATGATCTTCC | 240 |
| | TGGATACGTT | TCTGTCCATC | TGCCAATCCC | GTTTTCTCAT | CAGTAGCTTG | CGAACC GGCG | 300 |
| | ACAGTATGGA | TTTGTTTGA | GCTAATTGCA | TTACTACCGT | CACGATCTTC | AAGAGGTCCT | 360 |
| | TTGCCAGCAT | GACTTTCCGA | AGATTTCGAG | CGTTTACCTG | CAGGCGCACT | CTTACCCCGT | 420 |
| | TTATCTGCAG | GAAATGTAGT | CTCATCGTCT | TCATCTTCTT | GTATCGTCTG | TATGCCTCTC | 480 |
| 10 | CTCACGATGC | CGCCCTTACG | CTGTCCCTAC | ACTCTTCATC | ATCCTCCTCC | TCATATCTAC | 540 |
| | CTCTTTTCCA | GTCTTCTCCA | CTCATACTAT | CTCTACCACA | TATCAGGATA | ACGTATAATG | 600 |
| | GTGTGACTTT | TTTGGATAGC | ATCNCCTGGC | CTAGGAANGC | TNNGGTTCCG | AATATAATTT | 660 |
| | AACATCTTCC | CAATCACAAA | TTCNCTCAGTA | ACNGTGGTAA | ATTNAAACGN | AANTTTTTTAA | 720 |
| | CTTTCCATAC | GGTTTANGNC | CCATGGCTCT | TGAAANCGGA | AAAATCCGGG | GCCCCCCTTN | 780 |
| | GAACCTTGTTT | | | | | | |

1312RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCATTTCTC | ACCAGTACAA | ATGTATATTT | ATATGTAATT | GTCTCTCTCT | GCTTTTGCCA | 60 |
| | TATTTTTTTTA | TTTTTTGTGG | TGACAGCGTG | CACTGACGCT | GACGCGCAAG | CCGCAGGCGC | 120 |
| 20 | GATTCCTTCGC | AACTTTTCGT | CAACGCGCGA | CAGACAGTCA | GAAAGTAATA | GGAAACAATT | 180 |
| | AAATACGTTG | TTATGTTATA | TGAAGTTATA | CATAAGTGGC | TGCCATCAGG | TTATATATTG | 240 |
| | CTTTAAATAA | CCCATTCGTC | TGGAAACCTC | CTCTGTGAAT | GCCTCGCTCA | AACCGGGATG | 300 |
| | GTTCTGTTCC | ATCTCGGGCA | AATATTAAGT | ATAATTGATC | TACAGCGTCT | TTTGTCTCTT | 360 |
| | GAGTCCGTCG | TCTATCACGG | ACGCGTCGTA | ACTGTAGCGG | ATAACATGTT | TAAAGAAGTT | 420 |
| | TAGTTCCTTC | TGTGAAGGAG | CAGCAGCTTT | GAGTGCTTTT | TCATCATAAT | ATTGTTCAAG | 480 |
| 25 | GTAGGAGAGG | AGGTAATGTT | TGTCTCTGGG | TTCTTTGAAG | GGCTGGATAA | TAATGACTTG | 540 |
| | ATTGTGACTC | CTGGTGATGG | TACATTTAAC | ATGCCAATCC | CAGTTCCCAA | GTTAGATTCT | 600 |
| | TACCGGTTTT | GTTATACCTT | GTTTINATAAG | GGTTACTTTG | CNCCCCNACT | TGCCAAGAAA | 660 |
| | TCATCTTATC | CCTTTGANAG | GTCACCTGTC | CCTTAATTGT | AAACCTACNC | CCTTTACAAT | 720 |
| | CTATGCTTAT | ACCCNGCCAT | TGTCCCTGAA | GGATTTTNTT | ATTAACCCCTG | CNCACATCCC | 780 |
| | TTGGCTGG | | | | | | |

1312UP

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|----|-------------|------------|-------------|-------------|------------|------------|-----|
| | GATCAGGCAA | AGGATTTCTA | CTCGTATGTT | GGCAAGAACC | TGTCACAGAA | ATCCGACAGC | 60 |
| | AAGTTGCTTC | CTCGGAGGAT | TCAATTTGAA | CTTCAGAGGT | TTGACTATTT | TCACTCTCTA | 120 |
| 35 | CTCCAGTATG | TTGTAGGATG | TAACGCTCGT | GATTTTGCTG | TGTCACCTGC | GAGGTTTCAA | 180 |
| | TCTTCGATCG | ACCCTAATAA | TAAAAATACA | AACATGCACC | TGCTGAAGAA | GTATCGTTCC | 240 |
| | CATTTCCTTAC | CATTTAACAA | GATAAAGAGC | CAACAGCGCA | TAAGGCTTTC | TAAAGTGTCC | 300 |
| | AACTATTCTG | ACTTGAATGA | CTTCTACCAA | CTTGCAATCAG | CTACCTCAGA | ACCAAATAAG | 360 |
| | CCCCTCAAAG | AAGGACTCTT | ATGGTCTTAC | AGGAATTAAT | GATGGCATAA | ACAGTGGGTG | 420 |
| | GTAATAACAAG | GATCAGAGCT | CTCAGAAATAT | TCCGATTGGA | AGACGAAAGC | TAAGGTGCTC | 480 |
| 40 | AGCCGACCGG | CCATTAATTT | GACGTTTGTG | TGTGTTAAAC | GTTCGGAGAA | AAAGCCTAAC | 540 |
| | GGATTTGATA | TCATAACTAC | CGACGGCGAG | GCTCGTTCTT | TCCAAGCAGA | GTCAGAGGAT | 600 |
| | GAAATGAAGC | AGTGGCTGTA | TGCGCTTCAC | TCTGCTGTCT | GGATAATAGC | CATTGAGGAG | 660 |
| | ACAGATGAGA | ACAAAGATCC | ATTGTCTATT | GTCCGTAATG | CGGATCCGTC | AAATAGTGCA | 720 |
| | TGCTGTGACT | GTCGGAGCGA | TAAGCAAGTG | AATGGATATC | TCTGAATAT | | |

1313RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTGTCT | TGCTGACTTG | CATGTCTAGC | TCAGTTCTTT | ATTACCCGCC | TCATGTTGAA | 60 |
| | ATTTTCCAGG | AACCATCGCA | CCAAATGTAC | CGATGATATA | GATTACATCT | ACCTTCCGCG | 120 |
| 50 | AAGCCTGGAA | GGAAGCTAGA | CCTCTAATCT | AGTAGCTTGC | CATGTACATC | CCGCCATCCG | 180 |
| | ACCCGCGAAG | ACCAAGCAAG | GTGACGGCCG | GCCAGCTCTG | CGAGCTGTGC | CACGCGCCCA | 240 |
| | AGGCGCTGGT | AAAGCGCCCC | AAGAAGTTGC | AGAAAGTCTG | TAAACTGTGC | TTCTTCCATG | 300 |
| | TATTGGAAC | CGAAATCCAC | AATACCATTA | TGGAGAACAA | GCTATTCCAG | CGCGGGGAGC | 360 |
| | GGGTGGCAGT | TGGCGCGTCC | GGTGGGAAAG | ACTCCACGGT | GCTTGCCTAC | ATATTGAAGC | 420 |
| | TGCTCAACGA | AAGACACGAC | TATGGTCTCG | AGATTGTGCT | TCCTGAGCAT | CGACGAAGGG | 480 |

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|------------|------------|------------|------------|------------|------------|-----|
| CATGTGGCT | ACCGAGACGA | TTCCGCTAGC | TACTGTGAAG | CGCAACCCAG | AGCAATACGG | 540 |
| TTTGCCCTG | AGATTGTGTT | CCTACAGGAC | CTCTACGAAC | TGGACGAATG | ACGAATAGTG | 600 |
| CCTGCGCCN | GGAATGCNCA | ACACTGCNCC | TTACTGCGGG | TTTTTTGAC | CCAGCGCCTG | 660 |
| ATTCCGGGG | GGNAATGCTT | GAATCCACCN | NTTTGTTAAN | GGCCATACCC | GAAAAAATGC | 720 |
| CNAAAGNGCC | CANAARTCCT | GGCCGGGAAA | TTTGGCNAAT | CNAAATAACN | CTTTTCCCCA | 780 |
| AANAGGTCCC | GNTAANNNTT | | | | | |

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1313UP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCAAAAAA | GATACGGATG | TTATGCTTGT | TAAATATTA | TATGCTATAG | TACAACGTAT | 60 |
| | CGCGTCAAAC | ATAACGCATG | AGGACTATAT | TTTTAATTCA | CTAACTTCGG | CGAAGCATCT | 120 |
| 5 | CCGGAAGAAA | TAGCCTCCTG | TATGGGGCTA | AGTCCATAGG | CGTCGGTTTCG | GCTCATCTCT | 180 |
| | GGAGACTTTA | AAGAATTAAG | TCCGAAGGCT | AGGCTCCCAT | ACCCCAAAGG | CGAGTGGGCA | 240 |
| | CTTTGTTCGA | GAGATCCTTC | TGACATAGCC | TTTCTTAGTG | ACAGTGGCGG | AACATGGGCG | 300 |
| | CGGGAAGGAA | TACTTTGTCC | GTGCAATGAA | CCCTCGGATA | AAGGCCTACT | TAGCCCGTTT | 360 |
| | TTGAAAAATG | TGACAGTCTT | GTTCTTGATA | TCTAGCTTGT | ACCTCGTTGG | AGTGGGTTCC | 420 |
| | TTTGCAAGAC | CAGTGGGTTT | TTCCGAAAAG | CTTCGCGTCT | TCCCGGAATG | AATTCTGAGT | 480 |
| 10 | CCTGGTAGGG | AACATCCGAG | ACTTCCCAA | AACCNITTCN | CTNTCCATTT | TCNAAAAAAT | 540 |
| | GGAAATCNCN | CCGGCCATTA | TNGATCTCTT | CCCAAATPAC | NNCNCNCNCC | TCACTTTGNG | 600 |
| | ACTTGGGNAT | ANAGANCCCC | NTCNNACCCC | TCCAAANAAA | AAAAATTCTC | NTNGTGCCCC | 660 |
| | NTNATTCCCC | CCCGGGGCCN | NNTTTTAATT | CNNGGGGAAT | AAATTTTGTA | TCCNNGCNGG | 720 |
| | TNGAAGCANG | TTATNGCCCC | CCCTTGACCC | ATNTTTNACT | TNTTAATTTT | TCCCCNNNCG | 780 |
| | GNTGGAAACT | TTGCCNAAAAG | GCANGCTTTT | TGAACCAGT | | | |

1314RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCATAAA | CTATCTTCTC | ACTCGCCGGA | TGCAAAGTAT | CAAGGAATAG | GCGACAATCG | 60 |
| | GTAATGATTG | GCTCGAGCTC | ACGCAGATAT | TGGCGCACTT | CTGATATCCG | TGGGTTGTTC | 120 |
| 20 | GATGCATGAT | GCACATGAAT | AAAAGGAAGA | AGCTTCGAAA | GAGGTACACG | GCCCCGGTAG | 180 |
| | CGTGTGATGA | GAGCTGTTAG | TTCCGGCTTC | ACATCAGCAA | GTTTCTCTAT | AGGGGACGCA | 240 |
| | GGGTGCTCAA | CATCATTTAT | TAGACACTCC | AGCAGTTTGT | CTGAAAAAAA | GGTGTGCATG | 300 |
| | GACAAGTCAA | CCTCATCTTT | TGAGATGCCG | CGGATAACGT | CCCTCAGCGA | CGCCAGTCTC | 360 |
| | ATCGTGCAAC | TGCGTCAGAA | AACTCTTGAT | TGATAGCGTA | ATGCAGTCAG | AAGAAGTCGT | 420 |
| | TAAAAGCACT | TTCCGATGCC | CAGTGAAACC | TAATCCTCGT | CCGATATAAA | ATCGAACGTG | 480 |
| 25 | TTAGCAACAA | TCTTCCATAT | CCGGAAGTGT | TTTTACAAGC | TTCTTACGAT | TTTCCACTCC | 540 |
| | TCGATTGAAT | ACTCCGGCCN | AATTCTTTTA | CCATATACAC | CCNNTNCNGG | GCTTTTGCAC | 600 |
| | GAATTCNTTA | TTTGTGGAAG | AACTGGACAC | TTTGAAACTT | TGCACATTGC | NGANTCCGAA | 660 |
| | ACNCTTTTCN | CNCCGAACCTA | ATNTNAAACC | CAATCCTGAC | CCAATACACT | CCCCCCCCAA | 720 |
| | CATGACCCCG | CACANGATTN | TTTTTTCCCN | AGAATTTTNT | NAACTNTTTG | CCCCCTNANA | 780 |
| | CATTNTAAAT | C | | | | | |

1314UP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCTTGCTG | CAGACAGATG | CCGCGGAGCT | ACCCTTTTGA | ATCCTTATAT | AAACCCTTTT | 60 |
| | CCAGCTGTAC | CGCAGTAAAC | TCCCCTTGCT | TCAGGAGCTC | CAGGCTGCCA | CGCACACTCG | 120 |
| 35 | AGGCCTACAC | GCGTGACTGC | ATTGGCTTCT | GTGCGCACAC | GGAAAGTCTTA | AACGAACTCT | 180 |
| | AATCCCATCC | AACCAGTTCT | GCTAACGTAG | CTACTTCTGG | CCAATCGCTC | AGCCCCATAC | 240 |
| | CGTCGAGGCA | ATCTTTCCAA | GCCACATAAA | CGAAACCTAC | ACAGTTACTG | CGCAAGGCAA | 300 |
| | GTGCCAAAAG | ACCACAGGTT | CCGCAGTACC | AGAGCAAAAA | GCTTACCTGT | CAACACTTTCG | 360 |
| | AACATTCGCG | TGGCCTTAAC | CATATGCCAC | ATGAAGCAAT | AGACCCCTAA | AATAGAAAGC | 420 |
| 40 | GATTGGCGCG | GAACAGACAT | TCTTGGTGT | GTACTTGGAA | CTCACATAGG | GGCTGCACAC | 480 |
| | GTGCTTAAGT | CCTCGCTTGC | AGCTGAGGCC | ATGTGCCCCCT | CATTAGTGAC | CCACGTTGAT | 540 |
| | CTCGAGCCCG | CAAATGATCG | TCAGCGTGCA | TCCGACTTGG | CATTGCAAGG | GATGTTGATC | 600 |
| | CCCTGANGGG | AGGCTTGCAA | CAGCGCCNCC | CTTGTTCNC | ATCCATAGGC | TGTCGAGGCC | 660 |
| | GGAAATGATC | NCTCTCCAGG | GGAAACNCCC | CCCCAACGCC | CCATAGGGCC | CNCCCTGGGN | 720 |
| | TNTTGCCCGG | ANACTCCNAA | NCNNGGTTTA | AANNTTTTTT | TTAAANGNCC | CAGTGGTNTC | 780 |
| | AAGGCCCCCN | NGCCTTTTTC | CANCCGCGAN | TTNCTNAATT | TTTGNCNGCG | GNA | |

1315RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GCGGCCGCTC | NNCCAACCTAG | TGGATCTTCA | TTTGTGGCCC | GGCCGACAGG | TTACCACCGC | 60 |
| | TTTTCTCTCC | CGTCAGCATC | TCAACTAGCT | GCTGTAGCTG | GTACTCCCTG | TGCGCCGCGA | 120 |
| 50 | ACACGTTGCA | CTTGTCTATT | GCTGTGCATG | AAAGATCGTG | CAGCTGAACT | ACATTACCGT | 180 |
| | AAGTGATCAG | CCCAACAAGC | GCGTTGGGGG | GCAGCAACGA | CAGAGAGGTG | ATGATCGAAT | 240 |
| | CCTTCAGCGC | CTGGAGGTTT | TCTCTCTCCG | CGGTTACGTC | CACGACGTAG | AAGAAGATCG | 300 |
| | GCGCCACCTG | CACCGGCCGA | TTTGTGATGT | ACTCAACCGT | CGTGGAGTTC | AGTTCCGCGG | 360 |
| | GCATCGCCTC | CTGAGACATG | TTCCGATAGT | GCTGCGGAAG | ATGGTTCCCG | GTCCCCGCAC | 420 |

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|------------|------------|-------------|------------|------------|------------|-----|
| AGAGGGCAG | CCCACACGTT | CGACCGCACG | TCGATCTCGC | AGTACGGGTT | CAGCACCCGC | 480 |
| CTTACAGTGT | TGGCCCCACC | CACACACCCAC | CCGGTTTGTT | ACGAAAACCA | CCGCCCAGCT | 540 |
| CCCTCCAATC | TCCTTCCACC | GCGTTGTTAC | AGCATCCCCN | CCGGCNCAC | GTTCCCTTGT | 600 |
| CNCGTTCCCG | TCCGGGAAGC | CCGGGAAAAC | ATTCCCACGA | NAACCGCACC | CCNTTTAGTT | 660 |
| CTTCCTTCCT | NTTTCGAANC | CACCCCTGAA | CCGNGANCCA | CTTTTANNCC | CCTTTACCCC | 720 |
| CTTTGATCCC | CNCCGAACCC | CCNAAATGGA | ACCAANNAGC | CCNTAACNNN | TGCNAAAACC | 780 |
| GANTTGCCCN | TTTCAAGGTC | CCATCCTTTG | CCCCCGNGA | ANAAAANTNC | NCCGCCCN | |

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1315UP

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|----|-------------|-------------|------------|------------|------------|-------------|-----|
| | GATCTTTGCGG | AATATCGGCT | CCCAATCCGT | ACCCATCCAC | TTCGACACTA | CCGACTGCAC | 60 |
| | CGCCAGCGTG | TTTCATCGGCA | CAAGCTGCTC | TCCTAGGCTC | AGCACCGGCG | GCACCACAAA | 120 |
| 5 | GTAGAACCGC | CGCGTGGTCT | CCAGCTGCTC | CCGCTCGTTG | CGGAACGACA | CGTAGTAGCA | 180 |
| | ATACGAGCCC | GGTACGTACA | CATCCACATC | CACGCAGCTG | TCCTCCAAGA | AACCTGCGCT | 240 |
| | CAGCAGATGC | TTGTAAACT | TGTTCCGCTG | GAACCTCGTA | TTCTTTTCCG | GCGGGCAGTT | 300 |
| | GGTCCACACT | AGCCCGTCCC | GTGTACACAG | CGATCCGGCG | GCTACCACCA | ACCGCACCCG | 360 |
| | CAGCCCCGCTG | TCCTCCCCAG | CGTCTCGGCC | AACAGGTAAA | CATGGCAACG | TGAGCACACC | 420 |
| | CTTTCCAACC | TCTCCTCTCA | CCGGCTCCCC | GTTGTCTGCT | AATCTCAACA | GCACGGTTTT | 480 |
| 10 | CATCGCTGTT | TGCGCCCTTT | GCTGCGATCT | AAAGGAAGCT | TCGCTTGTC | TGCAGCTGCT | 540 |
| | AGCCTTGGGA | ACTGCCATAG | TCCTTTGACC | TTGACGCGCT | GTTAAATAGT | GCATTTTCAGT | 600 |
| | ATACACAATT | TGACTTACGN | NCTCCNCNG | TGCTAACTGA | GGGANATTAC | CCNAAACCCG | 660 |
| | GANGGGANNA | TAAACNGTNA | NAATTTNCCC | GGTNGCACNC | NTGCCNTATG | NTTCNTTTTT | 720 |
| | TGGAAANAAA | CCCTNNGGNN | GGTNGGTTGN | NAAAAATTGA | AAACCCNCGN | TNAATACTNC | 780 |
| | NTTNACNTTN | TCGGAANAACA | AAANTNCGGC | CCCCCCGN | | | |

1316RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCAATAT | ATGCGATGGT | CTGAAGGGTT | GTCCACGTGA | GTAGCTTAGC | GAATACTTTG | 60 |
| | CCAAGGCGTC | TGCGACATCA | AGAAGAGTCT | CAAGATAATA | ATAGTCCTTT | TTGGGCAGTA | 120 |
| 20 | AGCGAAGATT | GTCCTCGGCC | TTTGTCTATT | CTGGCCGGTC | CCTGGACCCA | TTTGGTGCGC | 180 |
| | TGTTGAAAAA | GGGCCAAAAA | TACTTCAAAA | TGACCGATTT | TTGACCTGG | AAACCTGCCT | 240 |
| | GGAGAGAGAA | GTCGTGCAGC | AACGTAAATT | CACTGAGAGA | CAGCAGTGTT | TCGATAATTG | 300 |
| | CAGATCTTTG | ATTCTCTTTC | GTTAATTTTG | GGTACAATTT | AGATGAGCTT | AATAAAAAAT | 360 |
| | GTAGTGTCTG | GACAGATGCG | GATTCAGCCA | ATAAATAATG | GCTGATGGAT | TAAATGATGC | 420 |
| 25 | CAGCTGCGCC | AACTCATCTG | CATTGCGTAA | GGAAACGCAT | GATTTTCAGAC | TATAGTTATT | 480 |
| | GGCAGCATCC | ATGTACTTTG | TTGTACTCGA | TCAGGTCTTT | CACTGAGACA | CCGTGAGAAA | 540 |
| | GCGTCACCGT | CTCGTCAATG | AGTTAGAGCC | ATCCATAGAT | TTCCCCGAGG | CAGTTCCCCG | 600 |
| | CATGAATTTT | CACCCACTTC | CCCCCGGTC | CATACCGCAA | TTTGAACATT | CCCGGTCAAT | 660 |
| | ACCTTCTTCC | TCCCCCGGNT | NTTCCNCAAN | AGGGAAGTTA | NATTCCTGNC | CTTTTTTTTT | 720 |
| | AAAACCCAAT | TCNCACTTTT | TCNGGGAANT | TTTCCGGGTT | GAGNAAAANT | CCNACNCCCC | 780 |
| | GTNGCCGGTT | TAATTNCC | | | | | |

1316UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAACACT | CGTACAAACG | AATATAGTCA | CATGACCAGA | TAATCGTCTG | GACTGGCACC | 60 |
| | CATACATCGG | CACCCATGCA | CCCACATGAT | GGTTTTCTTG | GCGGGTGGGC | CGTGTGGGGC | 120 |
| 35 | GGGCTCCCCG | GTCTACGCTG | GGCGGTGTAG | GGGGCCGGCT | GGGCGGCCAG | GCGGAGCAAT | 180 |
| | GGGCGGAGGA | ACAGCGAGCG | CGCCAGCAGC | GGTCCGCAGC | TGGAGCGTCC | GGCATGTGTG | 240 |
| | GAAAAATTGT | AGAATATAGC | ACTGTTATAC | TGAACAGTAT | ATAGAAAGAG | CACCTCTCTG | 300 |
| | AGGTTTGAAC | ATACTATACA | AGCTCCCAAT | CATCGACGAT | GGCTGTTGGT | AAGAACAAGA | 360 |
| | GATTGTCAAA | GGGCAAGAAG | GGTTTGAAGA | AGAAGGTCTG | TGACCCATTG | ACCAGAAAGG | 420 |
| | AATGGTACGA | CATTAAAGCC | CATCCACCTT | CGAGAACAGA | AACGTCCGTA | AGACCTTGTC | 480 |
| 40 | AACAGTCCAC | CGTTPGAAGA | ACGCAGCTNA | CTTCTTGGA | GGGCNNTTTC | TTCAAGGTNT | 540 |
| | NGCNTTGGCC | AACCANCGG | TTTNTAGGAT | TNNCNCTTCC | NAAAAGTTCA | ATTANAAATT | 600 |
| | TACAGGTCCC | NGGGCAAAAC | CCTTTNGACA | CCTTCCCCGG | TTTGGGATTG | CCCCCCCCNA | 660 |
| | CATTTTAATT | CAAAGGNCCA | AAATTTGGCN | ACCTTAATTA | NGGNATNTCC | TNTTNAAACC | 720 |
| | NGNAAAAANN | TNTNTAATTN | TTTNNCTTGT | CNTNCCCAA | AAAATTTNCC | CATTTNAAAA | 780 |
| | ACNTTTTNNC | CNTCCCTCN | NTTNAACNCC | NAAGGTTTTN | | | |

1317RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTTTATC | TTTCGATGAT | ATCTTTCTCTG | AAGAATCGAC | AAACACCTGG | TCCAGCAAAT | 60 |
| | TGGAAGCTAA | GTCTCTCCAA | TCGGATGCAA | AATAGTTGAC | ATACCGCGCA | TTTAACTTCA | 120 |
| 50 | CTAACCGGGC | GGCACCAATA | TCCTCCAGAA | CTGTATTTAT | TTGCTACGCG | TGAACGATTT | 180 |
| | GTTCAATCAG | CGTAATATTC | GTCAATACAA | AGAACCCAA | TCTCTGCATC | TGAGGTATCC | 240 |
| | TTTTATGTGG | AGCTCCGACT | TCGGGCTCTA | AGTTTGGATT | TAGAATCTTT | TGGGCCCTTG | 300 |
| | GCTCTAGAGA | TATGCTTAAG | TAATCTATAG | CATCGCTGAA | GAAGCAAGAG | AGCAATTGCT | 360 |
| | GTGCATTCTT | CGGTGTCATA | GATATCGTCC | AAACATTTTT | TGATTTCATTG | GGCAGCCATG | 420 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | ATTCGCGAGT | CATCGATTGT | ATAGTAGCAA | GGCAACCAGA | CTTGTATTCA | CTAAACTTGC | 480 |
| | GTAGTCTGGA | CATAACATCA | ACTGTGGCCT | CCAGTTACAC | CATTATCAGT | GGTAACTGAG | 540 |
| | CCCAGAGAAG | CGGTTTTTGA | CCGATGTACT | TGTNTCNATC | TTTTTGAACA | NGGACNCGGA | 600 |
| | AATTTCAATTT | CANGTCNGGC | TNCNCTCC | CAAAACNGTT | CCNTGGTTCT | NGTAAAGGTT | 660 |
| 5 | TNNCCCTAAA | AATNGGGNTT | CCCNGTNAG | NTCCCCCCC | AATTCNAACN | NAANACCCNA | 720 |
| | TTTTTNTAAT | TCCCCCNCCA | AAATTCAATT | ATACCCCCCN | TTTTNGGTAT | TNTAAATTTN | 780 |
| | GGGGGNCNCN | NTTCCAAAAA | GGNGCNG | | | | |

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1317UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGTTCTT | ATATTTGTTA | AAGAAGAGTT | TTCTTCAAGC | ACTTTGAGCT | GAATAATCTT | 60 |
| | GTCAAACATA | TTGTCAGGGC | TCCGCTGGTC | GTAAACCGCG | CGAAACCTCT | TGAGGAACCC | 120 |
| 5 | ATCTAAGATC | ATAATTGCCT | TTTCTGGCTC | CGATAAAGCT | TTAATAGATT | GATGGTTGTC | 180 |
| | GCCTCTTTCT | GCAACGCGGG | ATTAGTTAT | TTCTCTAAGC | GATTCCACAT | CCTTGTAAGT | 240 |
| | CAAAAATGAT | AAACACACGA | CTTTGACTGC | ACTGTTGTAC | GGAAATATAAT | TCTCCTTCAT | 300 |
| | CTTTTCCAAC | CATTGCAAAA | GTGTTTCCG | CTCGAACGGC | ATATGATTGT | TTCTGTCCAC | 360 |
| | AATTACAGCT | CTTGAAGTAT | CCTTTGTAG | AAACTCTAGC | GCGTCACGCA | TCAATTTGCT | 420 |
| | CTTATCCTTA | GTAACAATAT | TATCATTCTG | TATGTGGCCC | CAGGACTCTC | CAAAAATATT | 480 |
| 10 | CTTCAATGCC | AGCGCGACTG | TCGTCTTTCC | ACAACCAACC | GTGGCCACAG | GGAATGAAAA | 540 |
| | TGAACCTGGT | ATCTCGTCCT | ACCTTATCGA | GCTCCAGATG | CATACTGGTC | CCCCCNAGCT | 600 |
| | CCTTTATATC | CTCCGAATTT | CCATAATATC | CAATCCCAAA | ATCCCCAAAT | CNTTCTTAGG | 660 |
| | AANATTTTCC | NNNACTNGAA | ATCCCCCTAC | CTTGTNTATA | CCCCCTGNAA | ATTINGGATN | 720 |
| | TTGATTCCNG | CCAGGGANTA | CNATTCCCN | TTTTTNTTTG | TGANNAACAA | NGCTTTTGAA | 780 |
| | TTTTTGTCCC | CNCCNCTGT | GNANTACCN | CCCTCCTCCC | CCCTTNTTTN | TTACN | |

1318RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCCTCG | TCGTTGCGCC | GGCTCGTCAG | GCTCTGCGCA | AGGAACTGCC | CGAACCGACC | 60 |
| | AAACAAATCT | GGCATGTCTT | TCGCTGAGAT | GAACCCCTGC | TGCTTGCTGT | CCACCGCATC | 120 |
| 20 | CCACACGTTG | TTCAGAATAC | CCTCTGCCTC | CGTCATGACT | CCTGAGCCGT | GAGTGCAGTT | 180 |
| | CCCAAGGCTT | TTGTTGTGCT | TGGCAGTTGA | AACGACGCTC | GCAGCGGCAA | AACAACACCG | 240 |
| | GCCCCGCGCG | AATTGCTCAC | GTGCTCCTC | GCGCCACATA | AGCACGCACA | CCCTGACCCG | 300 |
| | ACACGCACCC | TGCAAAGTAG | GTCAATACCA | AAGGGGCACC | CCGCCTGACC | GTTCCTGCGG | 360 |
| | TCGAGCAGCC | GCCCCGCCAG | CGCCAACGGC | CACCAGCATG | CGCGTTCTCC | GTAGCCGCGG | 420 |
| | GCGCCGTTGG | CCATCGCCGA | AAATACCTCG | GTTTGGCCCA | CTGATGCCGT | CTGCCGTCCG | 480 |
| 25 | CCGCGCCCGC | CCGGCGCCCA | GGCACCAGTG | CCTGGTCAGG | GCGCCCGGGC | GGGCGGGGTC | 540 |
| | GGTCACGTGT | GCGGTTACCC | GGGCGTCGTT | TAGATCGAAG | GTTCTAGGTC | TGTGCCGTGC | 600 |
| | TGCCCCCTGT | TGTGCTACCG | CCAACAGTGG | GCGCGGCGTA | CGCGGCAGGC | ACCACGTGGC | 660 |
| | AGTGCGTATC | ACGTGAAAAG | AGGGCGGGTA | ACGGTGTTTC | GCGGCTGAGA | CACATCGCAA | 720 |
| | CTATTTACAG | GGCACTTAGG | NGTTGACC | | | | |

1318UP

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|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GCAAAAAATG | AGGTCCGCCA | TGCGCGGGCG | CTCGCGCCCG | TCCGCGACCA | AGCTCCGCCG | 60 |
| | CCCGTCCGCG | CCCCACAGGC | ACCAGCTCGC | GCCTGCGCGG | TAGCTCGCGC | CCATCGCGCA | 120 |
| 35 | GTCGCGCACC | GCGCCCGCGC | GCCGCAACGT | CCACATGTGC | CGCACCACCT | TCTCGTCGAG | 180 |
| | CACACCGCCC | CCGCACGTGG | CCGGCGCTGG | CGCCGCCCCG | GGCACCTGGC | GCTCGTGCGC | 240 |
| | AGCCAACCTG | CCTGTCTATG | ACAACGCTGT | AGGAATGCCG | ATCTTTGCCG | TTTCCGCTCG | 300 |
| | CTGCGCTGTG | GTGTGCTGTA | TACGCTGCCT | TATATACCTG | CCAGGAGAAA | TGTCTGCTAC | 360 |
| | TATCCCCGCG | AAAAATATCCA | TCCGATGCGA | ACGGCGGAAC | TGCGCGGAAA | CCTGGAGCCC | 420 |
| | CGCCTCTGTC | GATCGTATGG | AGAAACAGCT | AAAAATCGCTC | AGCTACTCAT | CTCTGGCGCT | 480 |
| 40 | GTGGTTCACG | GTGCGCGCAA | TGCGGCGCAT | GCCCAAGTCC | GTTTTTTCTC | TGTGGCGGGG | 540 |
| | CCAGGGAGAG | CGGGGCGCAG | ACGGCCAGAT | TTTGTGCACG | GCAGACCGCG | TTGGCTGTGG | 600 |
| | TAACGCGTAT | GAAATACGGG | GAAGCGGCGA | TTACCAAGTG | GTTTCTGCTGT | CAGGGGTGCC | 660 |
| | TGGGGCGCGG | GAA CGCGGTT | ATGGTCTATA | TTACAGAATG | TGTACAAAGG | AGTCACGTGG | 720 |
| | GGGGGTCGCG | GGGCNGGACA | GCTGCCTCTG | TTTCTTCC | | | |

1319RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTCCTG | CCTTTTGACC | TCTTCATTAA | TCTTCTCCTT | TAACCTCTTT | TCCGTGTCAA | 60 |
| | GAATGTCTGT | TAGCAGTTCC | TCTTCTCTGT | TCGGTTTCTT | CCTGTTCTCTC | CTGCCAAGAT | 120 |
| | GCAGCATCGA | GTTTGTCTGG | ATGGGCAAGA | AATTAGAAAT | GATATCGCCG | ATCCCTACGA | 180 |
| 50 | AGAAATCGTA | CGGCACAACC | TTAATGAGAT | TCCTCGACCA | GTTCCAGACA | TCACCTCTAT | 240 |
| | CGTCAATGAC | TACGACCATC | GACTGGTCCA | TCGGGAACAG | ACGCTCGAGT | GATTTTTCGG | 300 |
| | TCAGCGAACC | GTTTTCATCG | CGTGACAAAA | TTCTATCGCC | AAAGAGCTTC | CCATCCGGGT | 360 |
| | CAATTAATCTT | GGCAATCTCT | AGCGCATAGG | CTCGAGTAGC | CATGGTGTAT | ATATGCAGCT | 420 |
| | CGAAATGCGG | CGCGATCTTC | GCAAAGAATT | CCTTCAGGCC | TGGCCGTAAT | TTACGTTAG | 480 |
| 55 | TACCAACACT | TGCGCCGTTG | GTTGGCTTTT | GGCCCCCATA | TAGAACGGCG | GCAGCACAGC | 540 |

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|---|-------------|------------|------------|------------|-------------|------------|-----|
| | TCCTCCATCC | GANAGANAAA | AACTGCNCAT | CCTTAGCGCC | CCGTATTGGG | GTTTGTTTNG | 600 |
| | GTTCCTTTG | ACCACTCCCC | CATGGTGGGT | TCACACCGC | NATNGATTN | CCGTCTGGT | 660 |
| | CAATTTTACC | CCCAGCATNG | CTTGCGCNCN | TCCNNNCAAC | TTTGA CTGCN | CCNCTGACCA | 720 |
| | AAATCCA ACT | TGCNTTGGAC | CCGATTIGTT | TTTTTNTTTG | AAACGNNANT | TCCTNGTCNN | 780 |
| 5 | CTTGGGNCCC | CNCTTTCCCN | A | | | | |

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1319UP

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|----|-------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCATCGGC | ATGCTGGAGA | ACCCAATTTT | CCAGTCTCAG | ATGAACGAAA | TGCTCAACAA | 60 |
| | CCCGCAGATG | ATCGACTTCT | TGATACAGCA | GCACCCGCAC | CTGCAGGCAA | TGGGCCCGGC | 120 |
| 5 | GGCGCGCGAA | ATGCTCCAGA | GCCCCTTTTT | CCGCCAGATG | CTCACCACC | CCGACATCAT | 180 |
| | TCGCCAGATG | TCCTCGCCTGC | AGATGGGCAT | GGGCGGTGCG | GGCGCCGAGC | AGGGCACCAG | 240 |
| | CTTTCCAGCC | CCCCGGCTCCG | CCGCCACACC | CGACGCCGCC | GCCCCCTGCGC | CGAACCCGTT | 300 |
| | GGCTGCCATC | CTAGGCTTGC | AGCCCCGGCGC | TGCTAACCCG | CTGGGCGCTG | CGCCCGCAGA | 360 |
| | CCGCGGCCCTT | GCAATGCCCC | CTCTAGACCC | GGCTATGCTC | TCTTCCCTCT | TCGGCGCTGG | 420 |
| | GCGCTGCCAG | CCCTGCGCCC | GCCGAATAAC | AGGGCTNCCC | AAGNANGNGN | TANCAACAA | 480 |
| 10 | ANATTCCGCC | ANGCTNAATN | AATTNGGGCN | TCTCCAACCTT | GAANAAANAT | TTCCGGGCTT | 540 |
| | NAAGCGCNCG | AAGATGTTCT | NTCNGGGCG | CCCTTNTATT | CTTTNTNTAA | GGNAAANTTN | 600 |
| | TAGGTGNNGA | NTTNTCTGCT | NCNNGGGCG | NCGTGCGCGT | TTTTNTTTAT | TCCCNNTTNT | 660 |
| | TTGINTTCTC | CNTNCTGNTT | TGCNACCCCA | CNCAATTTT | TTTNGGTGGG | GGCTNCCNTN | 720 |
| | TTTTCATNNN | TTNCNANNAC | GNCGNTAATT | ATANTTGTNT | ATCACGTCTT | NTTTNTTTTT | 780 |
| 15 | NNCCNACNGN | TTGGGTTGCC | CCTTTNANNT | GAGGNTGGTG | TAGGGAAGA | AAAT | |

1320RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTTTCA | AGAAGTTTAA | CAATGACTTT | AAAGCTAGCA | TTGATAAAGT | ACTCAAGAAA | 60 |
| 20 | CCTAACAGAG | CGGAGATGTA | TGATGCTCTT | TTGTCAATTA | ACGTCCATT | TAACAATATC | 120 |
| | ACCTCGGGAT | TGAATAGAGC | TATCTCCACT | GGTAATTGGT | CGTTAAAGAG | ATTTAAGATG | 180 |
| | GAACGTGCTG | GTGTTACCCA | TGTCTTGAGT | AGGCTTTCTT | ATATTTCTGC | TCTGGGTATG | 240 |
| | ATGACAAGAA | TTTCTTCGCA | GTTTCGAAAA | TCTAGAAAGG | TTTCTGGTCC | TAGAGCTTTG | 300 |
| | CAACCTCCG | AGTTCCGTAT | GTTGTGTACA | TCCGATACGC | CGGAAGGTGA | GGCCTGTGGT | 360 |
| | TGGTTAAGAA | CTTAGCATTG | ATGACACATA | TTACCACGGA | TGATGAAGAG | GAGCCCAATA | 420 |
| 25 | AGAATCTTTG | CTACTTACTG | GGCGTTGGAG | AACATTACAT | TGGCTAAANA | ANGGCNCCCT | 480 |
| | TCCTTTTAAA | TNNNGGGGGT | TTTATTTGGA | AAGGGTACTA | CCCCCGGTNC | ACAAAATCCC | 540 |
| | CCCCGNGTTT | TTGTTCCCCC | TTTTAAACTN | TANAAAAAAC | GNGTAAATTT | CCNNATTTCT | 600 |
| | TTTCCCNNTN | TCCCAANNNC | CTCAAACTT | NTTCTTTTGC | AAGGAGGGGG | GAAATTTNTN | 660 |
| | ACCCCTTTNT | TTTNTNGGAA | GAGAATTTTT | GTCCCGNGG | CCCCCAAAA | TTTTTAAGGG | 720 |
| | GAANTCNTTA | NATTCCCNAN | NGGGGNTNNT | AATTTTTTGGN | TTTTTANAAA | AAANCCCCC | 780 |
| 30 | CCNCCGNNA | A | | | | | |

1320UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCATGAGG | GAATCCTTGG | AAGAGGATGA | CAAGAAGTCC | GACGATGAAG | GTGACCTGTC | 60 |
| | TATTCCAGAT | GCGCCTTCCT | CTGAGGAGGA | TTAGGCATAT | AATGGGTCTG | TTATATGTAC | 120 |
| | ATTAATTAAC | ATTCCGCTTT | AGCTTTTTTA | CTCTTATCTT | TACGGTAGCT | CACCCATATC | 180 |
| | TGTAGCCCTG | CTCAGTTATC | ACTAAAACGA | GTGCCAGGCC | CTAGTACTAT | ATAATCCCGA | 240 |
| | GTTTCGAGCTG | AGAAACAATG | TCTGATTCCG | CTGGTTTGCA | TGGGAGTACC | GCGATGCAAG | 300 |
| | ATCCAGATAG | CACTTTAGTC | GAGGAAAGGT | TGGCGGCTAC | GCCAAAAGTT | ATCAACAAGG | 360 |
| 40 | TCAGACAAGAA | AGGTTCAAGC | CCCCTTTCAG | TGTTTAAAGT | TAAAGAGGGG | AGCCTATCTT | 420 |
| | GCCNAAANTG | CGCCAGGGTN | CNTGAATTTN | GGAGAAAAAA | NTGCGTTTTT | TCCGGAAAAA | 480 |
| | CGCCCNCTGA | NNCCAAAATT | TATTNGGGAC | CCNCNACACC | NCGAGAAATT | TNNTTNAAGN | 540 |
| | GCGCCCTTTA | AAATNCCCAA | TNTCTTCNAA | ANNATTTGAG | GNGGAAAGAC | ANTTTNTTTN | 600 |
| | AATNCGCGG | GGGGTNTTTT | TTGCCGCCCC | GGNGTTCNTC | CCNCTCCAC | NANTTTNAAA | 660 |
| | NATAGGAGGA | ANGGGNGGNG | GCCANATTTT | CACCTTTCNN | AGTTNGANNG | CCNGNAAANA | 720 |
| 45 | GNNITGGATGN | CCACCAATNC | GGGTGNTNGA | AAANANTNCN | NACTGCTTGT | ACACAAATTT | 780 |
| | TTTTGTGCCG | CNGGTGACAG | AAAAAAAGAN | GGATTTTTTN | ACAACCNNAA | AAANAAAAAA | 840 |
| | AAAA | | | | | | |

1321RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCACGTCG | TTCTTGGA | TTCTATCGTC | GACGGTGCTG | TTCTTCAGCC | GGGAGGCGAT | 60 |
| | ACGGCTGGCG | ACGCTGCGCA | TCAAGACGGG | CGGGGACGGC | GGGCGCGGCG | GCGAGATGTC | 120 |
| | TGCGGAGCTG | CAGACGGCGG | TGAATTTTGC | AAACATACCG | ATGTGCATCG | GGGCGCGGCT | 180 |
| | GGCGGTGGTG | CTGGCGGTGT | GGCAGTACTC | GAACCTCAAC | AGCTACTTCA | GCGAGCTGCC | 240 |
| 55 | GTTCTTCTCG | TGGTGCATCT | ACCTTGTGCT | GCTGTGATC | CTGGCGGAGC | TGCGGAGCGA | 300 |
| | GCCGCTGTAC | GTGGTGAACC | AGTTCATGCT | GAACCTACCG | AAGCGGTCCG | AGTTCGAGGG | 360 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | TGCGGCGGTA | GCAGCGTCCT | GCCTGGTGAA | CTTCGCGGTG | ATCTACTGGT | ACGAGAAGTG | 420 |
| | GTTGAATGGG | CGCGGCAGAC | GTGCACGACA | GCTACAGCCA | GGAGGCATCG | CGGTGCTTGC | 480 |
| | TTTTNCCCCG | GGGAAGGTTG | CCCCCNCCAA | AACTTTNCCT | GGCCCGNTCT | ACTTGAANAA | 540 |
| 5 | CTTGCGNCTC | TGGGCCCCCA | AAAACCTTTT | TCCCTTTTNT | TNACAAGTTC | CTTTTCCGGN | 600 |
| | NATTTTTTAC | GGGNTTNTTC | CNCCCGNAAT | TINTTGCCCC | TTCCNAAGGT | TTTTTCCCCC | 660 |
| | TNTTNTTTTA | NCCCNCTTIN | NCAAGGGGGA | AANNTTTTIN | CTTCCCCCNC | CCCGGGAGAA | 720 |
| | ANNGGGGANT | TTCTTTTTTT | TTAAAANGGN | NCCCCCCGN | ANGNNTTTIN | CCCCCNAGAA | 780 |
| | NATTTTTT | | | | | | |

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1321UP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCGAATTC | GATTTCCCTTT | CGGTGCAAGG | AAACAGAGCC | TTCGTTAAAG | TGGGATACGA | 60 |
| | AGACCGTGCC | CAATTTTCGT | CGGCCCTTTC | TACATACATC | TCAAGCGAGG | AACTTATCGG | 120 |
| 5 | CGTGCCATTA | GTGGTCCATA | TATTGCAAGA | ATGTACAAAG | TTAGAGAGGA | TGAAGGTTGG | 180 |
| | GGAGGACGAT | GAGCTATGGT | TCAAAAAGGAG | TTTGGAGGAA | NAAGTANCGG | ATTCAGTTG | 240 |
| | TAATTAGCTA | CAAAAGCGGA | ACGGGTCACA | CTAAAATTCC | ATGCGCTAAC | TTTTCCACTG | 300 |
| | AAAGAAGCCA | CATGAAGCTT | TTATATCTTC | TGGGGCTCCT | CTGGGACGCT | TACACGTCCA | 360 |
| | GAACGTGTTT | CCAAAATTCC | TGGACGTTTT | CGAGGTTTTA | AGAACCGATC | GGTCTCCGTG | 420 |
| | CTTGACAGAGA | GGTGCAATTG | ATGGGGCGAA | AAATGGTTTT | TCAACCGCCG | AGGGTCGTTG | 480 |
| 10 | TTCAGGAGCT | TTGTAGTTTC | GAAGTTGGAG | CGCCATTCCA | TTGATTGCCC | CTTGCTCTTC | 540 |
| | CTCCCTNGCA | CTTGCCGCTT | GCTGCTATGT | TTACTTACTA | NAAGCACCGA | NCCACACTTA | 600 |
| | TCTGGTTTTT | TTTCCCTATC | CTGANACTCC | CTTGAATTAT | TGCTCTCTTT | TGACTTTCCC | 660 |
| | CCTGTTCAC | GTTNGTTACA | CNTTGTCTTT | GAATATCTTT | CCTTTCCGAA | GCACCCATNT | 720 |
| | TTATAATTAG | TCCTATTGAC | CCCCCCCCACC | TGGTTTTTGT | TTTCTCCCA | ACANGTTCTC | 780 |
| 15 | TTCTCCACTN | AGNTTTGTAT | ACNGAATGTC | NACCC | | | |

1322RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCCAGGAA | ATAGTACAAC | GCCCTTGGAT | AATGCCAGGG | ATTCTGACT | CCTAACGAAA | 60 |
| 20 | AGCCTCTCCT | CTTCTAATTT | CTTATTTAAAG | TAGTTAGCTG | CAAACGTAA | CAAATCCCCC | 120 |
| | GGCCGTCTTT | GCTCCACTTC | TTTCTGGAAT | CGGTCCAGTA | GGTCACGGTG | TTCTGTGAT | 180 |
| | AAAACCATCG | AGTAGTTTGT | TGTGTGATGC | AGAAAACCTG | CCTATAGCGG | AACCAAAATG | 240 |
| | CTCTAGTAGT | GTGACGGCAC | CGTTTTATCC | AGTTTGCTAA | GCAGCTGCCC | TAGGTTAGGG | 300 |
| | AGAGTAGAAA | GTGTCATTTG | ACCCGAATTT | CCTTCTGCGC | GCGGCGAACG | ACGTTAAATG | 360 |
| | TGATTTCACGT | GATCACGCTA | CTGGGGCTAA | CTACCAATTG | AGACAGGCTA | GTTGTGGAAG | 420 |
| 25 | CCTGAGGAGG | TCTCCGAAAA | GCTTGATGTG | AGGATACTCG | TGTTCACTTA | TCTGTATGTC | 480 |
| | CTGTATTGAT | CTGTCCGTGA | GACCTCGAGC | TCTTCGTCCG | TCAATGCCCC | GCGCCTAGAG | 540 |
| | AGCTAGGTTG | ACTCCGAGTT | CTACAAAATT | TCNAAACNCC | TTGAAAATTC | NCAACATGCT | 600 |
| | TNTGGACCAT | CNANTTCCCC | NCCTTCGGAA | MNAAGCCCTC | CANCTTTTTT | TNACGTTGCT | 660 |
| | NACTTNNCCN | CTGAAAAAAC | GTTCNATTTA | CCCTNTMTA | CNCGGCAGGA | AACCCCCAN | 720 |
| 30 | TTCTTTTTCC | ATNAACCGGT | ANCTNAAAGA | ATTTTCNNGC | CATGNGGTTT | ANG | |

1322UP

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|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTTCACA | ATCGACGCCA | CGTCCATCGC | GATGTTCCGC | CGCACTGCCG | TCACTGTGAG | 60 |
| 35 | ATATTTCGTAC | GGAGAGAGCC | GGTACGTGTT | GATCATGAAG | TTGCGCACAT | CCTGTACGC | 120 |
| | TTTGGCCGTC | TTGAACCGCA | CCGAGTCGTT | GAAAAAGTCG | GGCAACGCGC | GACGCTCCAG | 180 |
| | CTCATGGATC | TGTTTGAAC | GGAACCACGA | GGCAACGACG | GGCAGCATCA | CCGGGTGCGC | 240 |
| | CTGCTTCGCT | AAGAAGCGCG | CCGCCTTGTC | CTCCAATTTT | TGCGCCTCCT | GCTCGTAAATC | 300 |
| | GATCTTTGGGT | TGTTCCCTGCT | GCTGCTGCTG | CTGTTGCAGA | TGTGGCAGCA | CAGGTACAGA | 360 |
| | TGGATTACAG | CTGCCCGTGT | TGCCCGACGA | AAGCGTTCCA | TGCGCCAGCGT | TGTCAATATT | 420 |
| 40 | GCCATCCTGG | ACATCCATTG | GCTCGCTCAT | CGTTATAAAG | AGTATGCCAC | GCTACTTTCC | 480 |
| | CCGTTTAAATA | GCTTTCAAAC | GCGTCTTCGC | TCTGCTACCC | CGCTTAANTC | CACACTGGTT | 540 |
| | TNTGTTTTTCC | NCCATACCCA | AAATTTTAAA | ACCCATTTTT | CCACATCAGC | CCCATATCCT | 600 |
| | CCGTTTGGTN | GNGGAAATTT | GAAACCCANC | CCTCGCCTGG | CGGAAAAANN | TNCTTA TGGA | 660 |
| | CCCCCTTCCC | NTCTTTCAAT | CGGTCCCTTT | NACCAAGNNT | TTAGCCCCCC | GGNANANGAC | 720 |
| | CAATTNGGTC | CTTCCGTCNC | TTTCCCTTNT | TAAATTGAAA | AAGGTNNCCC | TTTGAAAAAT | 780 |
| 45 | AACCCNGCCC | NCNTCCCCCC | GANAAATGGT | TTTTTGT | | | |

1323RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCAGTTTG | CAGGGACCAT | GAGCAGGGCG | GGCGACGAAA | GCAGCTCTCC | TTGCTACACC | 60 |
| 50 | TCCGTGCAGG | GGCTCAACAC | GCCCTCGCAG | GCGGACGACG | ACGAGGAAGA | GGAAAGATCG | 120 |
| | GCACCGTTTT | ACATCCATCC | AGATTTGAGG | ACATCACAGC | TCTACTTTGA | GAAGATGATC | 180 |
| | GATGAAGAGC | CCCTCCCGGC | GCCTGTTAAG | CGGGTGTCT | ACATTAATCC | GTATGGAGAG | 240 |
| | GAAATTTTTCC | CTCTCGGTCT | ATCCACGAGC | TGAAGCGATG | GTAAAGCGATG | CGATATGCTT | 300 |
| | GTGTATTCCA | TCCGGTCTCT | AATTACCACC | TATTGCCATG | GTGATCCTCC | GGTACTTGCG | 360 |
| | AGGTGGTGGT | CCAAGGGAAG | ATGAAAAAAT | GCTACTGGTC | NCCNCCATCA | ATTNNNAACC | 420 |
| 55 | TCCGATTAGG | GGGGGGGGNT | TNTTTTTTTA | ATTTTAACCC | CCCTTTGGGG | TGACCCGNNC | 480 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | NAAAAAAAG | GGGGCTTGN | NNNTTTTTT | TNGNCCCCG | CNCCTNTTCG | GNAGNTTTTT | 540 |
| | TTTTCTGGNG | GGGGGGCCCC | CCNNNCGGAA | AATNTTNTNC | AAAAGGAAGN | ATTINCCCCN | 600 |
| | NANGGGGANT | TTTTTTNTTA | NNAAATNDAA | AAAAAATTNN | TTCCATTCCC | NNAATTNNNN | 660 |
| 5 | NTTTTTNNNN | CTNTTNCGGN | TTTGNAANTT | NACCCCCNC | NANAANTTTN | NTTTTTTCCC | 720 |
| | CCCCCCCCC | CCCGGGNNNN | TNCNTTTTTT | TTNNNGATN | | | |

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1323UP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCCGTTTT | TCCAATATTT | CACCGTCCTG | TAAATCAACA | GTTGAAAAAC | AATGGCGTGC | 60 |
| 5 | TTAATCGACG | AACGCAGCAC | AACCAGCAAT | AGGCTTCGAA | GCCGTTCCAG | AGGTGATATC | 120 |
| | GCAAAGTTGC | TCGAGCACTA | GAACGGACTG | GGTCATTATA | TAGGTGGTAG | TAAGAAGTGG | 180 |
| | GTAGAAGGAA | GGGGACTATG | GTACAGCGCG | GGCGTGGAGG | CAGGGACGCC | GCAGTGGGTG | 240 |
| | CCGCTCATGG | GCATGGGCAT | ATGCGGCAGT | TGTACGAGTT | GGTTTACAAC | CGGGGGGCGG | 300 |
| | TGGGGACGTA | GACGTTTACT | GCCGGACCTG | CCGCGGCACG | GGACGCTTGA | CCCGAGCAAT | 360 |
| | GTTGTGTGCA | CGCTAGTGGG | GCTGTACCAC | TCGATTCCCG | GCGACATCCC | GCTGATTAAG | 420 |
| | ACGCATTTCNA | TCGCCCGGTGG | GTGTINTCTGA | NCNAAGTTGG | ACCCNGGAAC | CTGATTGTTT | 480 |
| 10 | TGTGGCNAGA | ACACATNCCC | TTGTTGGTGG | ACCCACCCGA | NAATFAAAC | GCCCCNCCAA | 540 |
| | GACNAGCCCG | CCTCCCCCN | GNGCGTTTGG | GTTNNNGCCA | TNNGTCCGGA | CNTCCAAGAA | 600 |
| | NTTTACTNGC | ACCGNCGGNG | GCACCGCCGN | CGGGGCACCT | NTTCAACNC | CNTCCCCCCC | 660 |
| | CNTGGGGGGG | NCCCCCCTT | TGAAAAANNG | TGGGGGGGAC | CGGTTCGGGT | CCCNNTCCCC | 720 |
| | CCATTTCNATT | TTTNTTTANA | NANNACCAAC | CCGCTTCCTT | TNNCCCCACN | CAAAANNNGT | 780 |
| 15 | TNGTTAANCT | NCCCCNTTAT | TCTNCCCCCC | CGNCCNCTAT | TCCNACCCGN | CNGT | |

1324RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCTACCG | GGATGCACGA | CGCATACAAG | TATATCAGGG | ACCTTGCCGA | GGAAATGGGA | 60 |
| 20 | CATAAAATTG | AAGGACCAGA | TCACAATTGG | TCGTTCCCTA | TCATAGCCAA | GATATATATA | 120 |
| | TATATCTGGG | ATAATTACAG | CGCTTGGTAT | GTATACCTCC | TACATACAAA | TACTTACATA | 180 |
| | CACATAAATA | TAATACAGCT | ACTTGTAAAG | CGAGAAAGGT | TACTTCTGGA | GAGCCATTAG | 240 |
| | AGACGCAACG | AATGTCAAAA | TCAACCTCGG | GCGGACTTCA | TGATATCTT | CAGGAACCAA | 300 |
| | CCAGATTAAA | GCACCAAGTT | TTCTCGCGAT | AGAAATTGCC | AATTTAGCGT | TTGCATACTT | 360 |
| | CTCTTCTCT | GTTACGGCCG | GGAGTAACCA | AGTCATAATC | CACATATCCT | GGAGCTAATC | 420 |
| 25 | CGTTCAATAC | ATCCAATAGG | AAATGGGCAT | TGCTCAACGA | AGCATCCCTG | GAAAGACATA | 480 |
| | TCCTGCTCGA | TTTGCCACCC | TTGGCACTTG | CCTTGCGCCC | ACTTTAGATC | TGACATCTGA | 540 |
| | ATNCTCTACC | AAACAAACTN | TGAGGANATN | TGTTTGACAA | GTTTTCTGCN | CCTCACTGCC | 600 |
| | AAACTAAACT | AAGGTACAC | CTNTTTGCNT | CCCCAATTGC | AACCCCTTN | GCCCCCCCAA | 660 |
| | AAAAACTTNA | ATTCCCAAAT | TCANNCCCTN | TTTGGTTTCC | CCCCCAATNA | NCNTNAATTT | 720 |
| 30 | CNNCCNTNN | CTGGNCCCGG | NNGAAACCCN | TGAAATAACC | CCCCGAATAC | CTNCTTTGCC | 780 |
| | CGAAC | | | | | | |

1324UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTAAAG | AGGCTCAGTA | TGCAGAGGCA | GTTTCCAGAA | GAAGACAGGC | TGGGCTTCGA | 60 |
| 35 | AATCCCTCAG | CTCCCGCCGT | GGAAGAGTCC | GCAGATGAAG | CAACACACAC | AACAGGGCCA | 120 |
| | GCAAACGCCG | CTGCGGCGCG | CGCGCTGCAT | CCTCGGTGCC | CCTTATGAAC | CGAGCAGGGC | 180 |
| | GTCGTCCACT | GGTGCAGGCC | AAAAGCGCGA | CTACGACTAC | TCCGTGTTCA | ATGAGAGCAG | 240 |
| | GCTCCTCACT | GAGAGCAAGA | TAGACCAGTA | CTTGAAGAGC | GAGGCCGCAA | CGCACAAACG | 300 |
| | CGTATTCAC | CGCGACCGTC | CCCACGACGA | CAGCTACCGC | CCCGACTTGC | AGCCGCTCTG | 360 |
| | CTGCGACAGC | TCGGACGAAG | GAAGGGAGAG | CCCCGGCGCG | CGCAGAGCGC | GCCGTTGAGA | 420 |
| 40 | ACGCCCGGTT | TGGTGGGTCT | AGCATCCCCC | GGANATNCNT | CCCAGAAAAA | ANTNTTTCGA | 480 |
| | ACACGCCGCC | CGCCCGCCCC | CCNCAGAAC | TCCNTTAGC | GAACTTTTNA | AGAAGAAATN | 540 |
| | TNCCANTTTG | CGNCCCTNCT | TGGANAATGG | TGGGCCNGCT | THACNAAACG | CTAGGTTGNC | 600 |
| | GCGCCGAAAA | NCACCTTGCT | TNACCGCATN | CTCCCCNGAA | AGANAGANAG | NTCCCCNCAC | 660 |
| | TTTTNCGCAA | TTTTNTCCCC | CGCGANAAAG | GTTCCCGTTN | ANCCGANGGG | NGGCGCANNA | 720 |
| | ANAAACCTAC | NCANTTTNAA | CATTCCCCCC | CNTTTTTTNC | AAAAAAGANA | ATGNNTTTTT | 780 |
| 45 | CACNTTGACA | ANTGATNNCT | TTTNTGAAGG | GNGGNAGTAC | CCCCCGCTTG | CCTNTCCTCC | 840 |
| | CCTTAGANCT | NCNATTTTGT | TTTTNT | | | | |

1325RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| 50 | GATCAATGCG | GGAGTGGCAA | AAAGCGACTC | AAGGTGAACG | TGTTTCAGCA | CTGTTTCATGA | 60 |
| | TGGGGGGTGG | TCATTTTGCC | GCAGCCATCG | TATCTCACCA | ACGCATAGAT | ATCAGTGGCA | 120 |
| | ATGCCAAGAG | GCATGGAGAA | TCGTTACAGG | AACAGGCCGT | GCACCTTCTT | GAGCACAAAA | 180 |
| | CGTTTCACAG | ATACACCACG | AGGCGGAAAC | AAGGAGGTTT | ACAATCGGTT | ATGGATAACG | 240 |
| | CCAAGGGGAA | AGCAAAATTC | GCAGGCTCTA | CGCTACGTAG | ATACAAATGAG | GCGGCATTAC | 300 |
| 55 | GGAATGACGT | TCAGGACCTG | TTAAAGAAAT | GGAGGCCATA | CTTGGAACGC | TGCGAACACA | 360 |

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|---|-------------|------------|-------------|-------------|------------|-------------|-----|
| | TATTTATTAG | GGCCAAAAAT | GTTGCGGACA | GGAGCGTATT | CTTTACGGAA | AATACCCCAT | 420 |
| | TGACCAAGGT | TAGACCCGAG | GATTCCGGACA | TTCCCAATTCA | CAACCCGTAG | ACCTACCACA | 480 |
| | AATGAGCTAA | GGCGAGCATG | GTGCGAGATA | ACATACTTGA | AGAAGACATT | GAAGCCCAGC | 540 |
| | CATCACATCG | GAGCGGCATA | CTCCTAAAGC | GACAAATGATC | CACTGCCAAT | AAGCGACGTT | 600 |
| 5 | GTACGCAACT | TAACCCCGNG | GNAAACCTTA | NCAGGAACGG | CTTCTTTCTT | TGGATTCTNAG | 660 |
| | GCCCCNNNNT | ATTCCCTNTT | CNAAAAACNT | NTTTCCCCAA | CCTCTTTTFA | AACCCCGGA | 720 |
| | AAAAANNNTTN | AAACCCNCNC | CCCCCCCCA | | | | |

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1325UP

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|----|-------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCGTGCCA | TGTCTGATGT | GGTATTTTCA | TGCGGGGCGG | GGTGGGAGTG | CCAGCTGGAC | 60 |
| | TACGAAATCA | AGGACGAACG | TGAATTTTCA | GCCGCCCTAG | ATACTGTCAA | GGGTGCGCTA | 120 |
| 5 | GCCCCCGAAA | AGAAGTCGCC | CTGCCGCGACG | ACCGTGCAGC | CTGGGCCTGG | AGCAGGCGGG | 180 |
| | AACAACACGC | CGACACGCGT | ACCTCTGTCC | AAGCTCTTTG | TAGGTGCGAA | AAACACCAAG | 240 |
| | TTCAAGCCAG | TGATGCGCTC | TGCGGATGCC | GCTATCGCGG | CAGGCAGTGC | CGCTTCGGGC | 300 |
| | CGCCACTGTG | CGCTATTTCGA | TAAGACACAG | ATAGATGACC | CACCTGGTCAT | GAACAAAGCC | 360 |
| | GGTGACGACG | AAGTCGAAGT | TGTAGTCGAT | CCTATTTTGT | CAAAAAAGCT | ACGCCAGCAT | 420 |
| | CAGAGAACAG | GTGTTGAATT | CATGTATGAC | TGCGTCCGGG | GGCTCGCAAG | GTCCGAGAAG | 480 |
| 10 | GACGATGATA | GAACAGTGAT | GATCTTGGA | TATGATAGTG | ATGTCAAGGG | TTGTCTGTTG | 540 |
| | GCGGACGAGA | TGGGATTAGG | GAAAAACATGC | ATGACGATTG | CTCTGATCTG | GACGCTACTG | 600 |
| | AAGCAGCATC | CCCAGGCCAT | CGTCTGTTCC | dATGCTCCGC | AATTGGGGGG | TTTGGTTTGC | 660 |
| | AGGGTTTPTT | GCCANAAATT | CTCNTGGTAT | GCCCGGGTGA | CTCTGATTGG | CGACTGGGAA | 720 |
| | AANGATTTCTN | CCNATNGGNN | GCCGANGAAT | AAATTGGANC | CTNGAANCCN | ATTGCNAANT | 780 |
| | ACCCCCAAA | ANAAAAAATG | N | | | | |

1326RP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCGAATTA | AGTCAGATT | GATTGCGATG | GCTACTAACG | AACGTGCATT | GTCAGACCGA | 60 |
| | CCGAATCAGG | TACACATTGA | AACTCGTGAG | TGGCTAGTGC | AGACAATCAT | AAATGAAAGT | 120 |
| 20 | TGTGGCTGGA | GCAAGGGAAC | TGCGATGCCT | TAACCTTCTC | AAAACACTCA | TGGGTGGTCA | 180 |
| | AAAATCAATC | TATTCACTAT | ATAGTATATC | AAAACATTAA | ACCAAACCTAG | GCGCCAGAA | 240 |
| | TATTGCCAAA | ACATTGCACT | GGAGTATTAG | TATGCAGAGA | AGTAGCAATG | GGCGGCTAGC | 300 |
| | TGGTTACGTG | CATCTCACGG | ATGACTTATA | GAAGCCCAT | AATCATCTTT | TAGTGACAGT | 360 |
| | AAGATCAGAC | ATTAAATAAC | GTATCGAATT | TTAGGGGAGA | AGTCATCACA | CTTGCAATTAG | 420 |
| | TATACCGCAA | TAATTCCGGG | ACCACATCAG | TTAATACTGG | GCATGGTTTC | TAAAAAGCGA | 480 |
| 25 | AACTGGGTTT | ACATTCACTG | TGTTTTGCAA | CATAGATGTC | TCTCCTCATG | CTGCTTCTCG | 540 |
| | GTGAATAAAC | CATGCTTCAG | TAGGCACCGT | TCCCACTATT | TGGTAATTAG | TTGCCAGACT | 600 |
| | CCTTTATAAA | GGATGACCCG | AATATGANCT | TCCATTAAACA | TTGCCNGGAA | AANANATTTG | 660 |
| | GCANCCGTAN | ATATTTTCCT | GCCAATTGAN | ACCGTTCTNT | GAACCCCTNC | TTGGGGNCCN | 720 |
| | GCTTCCCAA | AACGAANTTC | CCCGGTNGNT | NTTTTATAGG | TNCNAAGAAA | AANA | |

1326UP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCAACAAG | CGGTTTCGCGC | AGCTGCCGGA | GAACCTGCGC | CTCAACGGGG | TGACGCCGAG | 60 |
| | CGGCAAGCCG | CGGCTGTTTT | TGTGCCACAC | GTGCACGCGC | GCGTTTTCGC | GGCAGGAGCA | 120 |
| 35 | CCTGATCCGC | CACAAGCGGT | CGCACACGAA | CGAGAAGCCG | TATATCTGCG | GGATCTGCCA | 180 |
| | CCGGCGGTTT | AGCCGCCGGG | ACCTGCTGCT | GCGGCACGCG | CACAAGCTGC | ACGGGGGGAG | 240 |
| | CTGCGGGGAC | GCGCTGCTGA | AGAAGGGCTC | GCCGCCGCGG | CAGCGGCTGA | GCCGGGCGGT | 300 |
| | CGGGCGGCGC | AAGAGCGCGG | AGGGGCTGCG | GCGGGCGGGC | AAGCCACGGC | GGCGGCTGTC | 360 |
| | GTTCTCTGCG | CAGTCCGGGG | AGAGCTACGC | GTCGGTGCGG | CCGCGCAGCG | CGGGGGGGGG | 420 |
| | CGAAGAAGGT | GCAGTTCTCG | ACGCCGCGAGC | TGCTGCCCGT | GGACCTGACG | CAGGAGCCGT | 480 |
| | CGACGTTTAC | GGCGCTGGAG | GCGAACGGTG | GTTGCAGGAC | GTGAACAGCC | TGTCCGCGCT | 540 |
| 40 | GGACGGACGC | CGGAGGAGGG | GAGCTGCAGC | CCGCGTCGGC | GCTGTCTGTTG | CAGGCCACGC | 600 |
| | ACACGCCGTC | GCTGTTTTGCC | CACCCCTCCC | NGTTGGCCGT | CCTTACGGGA | ACCTGCTTGN | 660 |
| | CGCTTTTGCC | CCGAATTGCA | GGTTCGAAGG | GCTTNCCTCC | CGNGGGCNCN | CCGCCCCCCC | 720 |
| | CGCATCCCCC | CCCGTNNCCC | AAAAATTCAA | GTAAACCCAA | NAACATTCCC | TTTCTGCTT | |

1327RP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCCAAGCG | TCTGGAGTAT | GCTAAACGAG | CGTCTCATGC | CAGGAACAAC | GTATTATCTC | 60 |
| | GTTGAACGCT | GTCCTCGAGC | CTCGAGCCAA | ATCTGACCGT | TTTTTTTGCTA | GAGCATACCC | 120 |
| | AAAAAGAAAC | ATCTTGATGC | GCTAAACAAC | ATGACAATGA | TTAGCGCGAG | GATGCCCTTC | 180 |
| 50 | ATGTTCTAAA | TTCATGCCCTC | GAGGTCCCAG | TGGGTGCCGC | ATGTAGTCCT | GCCGGCCGAT | 240 |
| | TATATTGCGG | CGTAGCTGTG | GTGAACATC | GGCGCTAATT | GACGGATAAG | CAGCTGTGTA | 300 |
| | CCTTATTTTC | ACTATTCTT | TTACATACC | AACGACTAAG | GTTGATTCCA | AGAGGTACTG | 360 |
| | ACTGACCCAG | TGGACAGCGT | AGTTATCGGA | GTAAGTGGGC | AATGTGCTAC | GGGTTCTCGG | 420 |
| | GGAGCGGAGG | AATGGGCTGC | TCAAGGCCGA | CGACGCCGGA | GCTGACGAAG | GAGCTCAACA | 480 |
| 55 | TCCCCAAGGA | CGTGCGGAGC | GCCATGAGGA | AGTCGCTGTC | GTACGACTTC | CTTAATGTGC | 540 |

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|------------|------------|-------------|------------|------------|------------|-----|
| CTGGCGGGGA | CGAGCAGGCG | AGCCCATCGG | GACGCCGACG | ACAGCGACAG | CTGAGGACGG | 600 |
| CGCCGACGGA | ACTGGAAAAC | CAAACCGGCG | AANGGGCCCN | AGGGCNGNGG | ANCAANGNCG | 660 |
| GAAAGGGGGA | ANTTTGCCGA | NTACCNCTGT | TGGCCCNCCC | CCGCGGTTCC | GANTTTGGGT | 720 |
| TGNCAAAATC | CCCTCCTCAC | TTNCAAAACCT | NCTGAGTNNA | AGT | | |

1327UP

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|------------|------------|-------------|------------|-------------|------------|-----|
| GATCGGAGGC | GTCGCTGGAG | CGTGCTCTTG | TTCTGTCTCT | GCTTGGCTAC | GCCCGACTTG | 60 |
| GCAGCCGCGG | CGCTCCTGAG | CGTCTCATAC | TTGCTGCCTG | CTACTTGCAT | GGTTTCTATC | 120 |
| GTACCGGTGC | AGCAACTGGG | ACAACAGCAC | CCAGCAACGG | TTGCATTAT | ATAGTGCTA | 180 |
| CCTGTACGAT | AGGGGACTGA | TCGCTCTGCG | ATGCGTATCT | ATCTCATTGC | GGAAGGTTC | 240 |
| CGAAACGAAA | AGCGCCAGTC | GCTGTGAGC | GACAATAGCG | AACCACAAATG | ACACAATAGT | 300 |
| GCGCGTCCGG | GACCCGATCC | CTGCAATGAAG | ACCGAATGCT | CGAGCAGATT | CTTGTGCGGG | 360 |
| CGTCAGCGGG | TAGCGCGGCT | CGTCGTGTGG | CGGAGCCCGG | ATATGCGATG | GCACCGGATG | 420 |
| GCGATGTGCT | CGGCGCTCGG | GATTAATCTA | GCTCTTCGGA | GATATGCTTC | TGTAGGAGGA | 480 |
| AGAGGGCGTA | GGGAGAAGGC | CTGGACGCGG | GCTTGGGGAG | CTCTGCAACG | TTGCGGGGGC | 540 |
| GTGCCGCCGT | AGGCGGCGGC | ACACCGGGNA | AATNCNCNGN | GANCCTNGTN | CCCTCCNTTC | 600 |
| CNCCCCCAA | ACTTGCGGGC | NTTNCNCCNC | CGAATNNCAA | GGNNGNCCCC | NAAATCCTNA | 660 |
| ACCCCCGNA | GGAAAGNNTT | GGCCTNTTGA | NCAAANNACN | CGCGTTNAAA | NTCCCGGGGG | 720 |
| TTTGNNGCCC | CCGAAAANGG | GGATAAACCN | GGCNACNACC | TTTTGAAATC | GCCTTTCNTT | 780 |
| TTNCCCCCAN | ACNT | | | | | |

1328RP

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|------------|------------|------------|------------|-------------|-------------|-----|
| GATCTCTTCT | GCAAGTTTCT | TTATCGGAAG | CCCAGGCTCT | GGATTTCCCT | TCTCAACACC | 60 |
| AATGGTATTG | TCTTCGATAT | CAGAGAAGGA | GCGCTTCGAA | TTTTGCGCAC | CACCATATGG | 120 |
| ACTCTCTTCA | TTATTTTCGT | TATTTCTTCC | ATCACTTTCC | CTTGCCAAAG | AAGAATCCAT | 180 |
| CGCACCCATT | ACATCGAATT | CTTCATTATC | AGCTTCTCCA | CCTGTTGTAG | TATTTCTGTC | 240 |
| ACCATTATTA | TCCTGTTGCT | TATTGATTGC | ATCACGGCCC | ACACGGCTCA | TTTGTTATCAT | 300 |
| GCTAGATGTA | TATGGGACAT | AATCCACCTT | TTCCAACAGA | GGACCGAATC | GCTCAACCAA | 360 |
| GTATTGATTT | AAAACCAGGA | AGTTCTTTGT | ACTGACCTCG | GCATATTCCCT | GATCTTGCCC | 420 |
| GAAACGTGCC | GAAATTACCT | TAAATAAGTC | GAGCACGCAT | GAGTTGGCCA | TGTTATCAAA | 480 |
| GTAAAGATTT | TCTTGTAGCA | GCTGACAAAT | TGGATCAAAA | AGATCTTAGA | TATGAGATAG | 540 |
| TTGTGATAAA | ATTTCATCAT | TACAGCCACG | ATACCCTTGA | TACCCGAACT | GCAGCCAGCC | 600 |
| TTAACTGTAT | AATATGGATG | GTTCCATTAG | TTTCCAATAG | TCAATAGATG | CCATTTTCCA | 660 |
| ATATNAACCC | CCCTTGACAG | CATAATATCA | GTTCCNTGTT | NTNATAATCC | CCCCATTTTA | 720 |
| CCAAACCNGC | NCNGTTGATT | NCCCNCCCTC | CACCCCT | | | |

1328UP

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|------------|------------|------------|------------|------------|------------|-----|
| GATCGGAGGT | ACATAAGTGC | TCTACCGACC | AACCCCGCTC | TCCATGCATC | AACCAATGGA | 60 |
| GTTGAAACAG | TTGACTGGCG | AGCAGGCCGC | CGCACTAGAT | GCGGAACCTA | TGGGCCCAGA | 120 |
| CGTTGGCTAC | TCGCTGCATC | AATTGATGGA | GCTAGCAGGT | CTTGCCGTGG | CGCAAGTCGT | 180 |
| CGTGCGCCAT | TGGGGCGCCG | CACAGGCGAA | GAAAAAGGTG | CTTGTGCTAT | GTGGGCCTGG | 240 |
| CAATAACGGC | GGCGATGGCT | TGGTTGCTGC | ACGGCACTTG | CGGCTCTTCG | GCTATGACCC | 300 |
| TGTGGTCTAC | TTGCCGCGGC | TGTCCGCCAA | ACAGCCCTTC | TACGCACAGC | TTGCCAAGCA | 360 |
| GCTACACTTC | GTCGGTGTCC | CAGTGCTCTC | CGAGGGCGAT | GACTGGCGTG | CGCATCTTGA | 420 |
| GCCACGTGAC | ACGCTCTGCG | TTGTGGATGC | GCTCTTTGGC | TTTTCTTTTC | GTCCGCCGCT | 480 |
| GCGCGAGCCC | TTCGCTAGCA | TTGTCCGAGA | GCTCAAACGC | CATGAGGATG | ACATCCCAAT | 540 |
| TGTCCGTGTC | GACATTCCCA | GTGGTTGGGA | CGTTTGACGC | AGGACGCTCA | CCCCTTCAGA | 600 |
| CTTATGCACG | TGTGCTGATN | TCTCNTGAAC | GCCCCCAAAA | AGCTGCTCCC | NCNCAATTG | 660 |
| AAACTGGTTT | TTTACCNCCC | ATTANTTTCC | GNGNNGTTTC | ATCCCNAAAC | CCNNGCCCGN | 720 |
| CCTCCNTGTT | TTTANTCCNT | CCCCGTATCC | TGNNCCCATC | CANANTGCGT | TTTTGANTTG | 780 |
| CCATTGCNTN | ATCT | | | | | |

1330RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTTGGAT | TTGACATTGT | CAATGGTGTG | AGAGGACTCG | ACCTCAAGCG | TAATAGTTT | 60 |
| | CCCTGTCAAA | GTCTTCACAA | AAATCTGCAT | ACCTCCCTC | AAGCGCAACA | CCAAGTGCAA | 120 |
| 5 | CGTAGACTCC | TTCTGGATAT | TATAGTCGGA | CAACGTGCGG | CCATCCTCTA | GTTGCTTACC | 180 |
| | CGCAAAGATC | AAGCGCTGCT | GGTCTGGGGG | AATGCCCTCC | TTGTCTTGGA | TCTTCGATTT | 240 |
| | GACGTTGTCA | ATGGTGTGAG | AGGACTCGAC | CTCAAGCGTA | ATAGTTTTC | CTGTCAAAGT | 300 |
| | CTTCACAAAA | ATCTGCATAC | CTCCCTCAA | GCGCAACACC | AAGTGCAACG | TAGACTCCTT | 360 |
| | CTGGATATTA | TAGTCGGACA | ACGTGCGGCC | ATCCTCTAGT | TGCTTACCTG | CAAAAATCAA | 420 |
| | GCGCTGCTGG | TCTGGGGGAA | TGCCCCCTT | GTCCTGGATC | TTGGACTTGA | CGTTGTCTGAT | 480 |
| 10 | GGGTGCAGAG | GACTCGACTT | CGAGTGTGAT | TGTCTTTCCC | GTCAAGGTCT | TGACGAAAAT | 540 |
| | CTGCATACCA | CCTCTCAAAC | GCAACACCAA | GTGTAAAGTA | GACTCCTTCT | GGATATTATA | 600 |
| | GTCGGACACG | TTGCGGCCAT | CCTCINNNTG | CTTACCCTGC | AAAAATCAA | CGCTGCTNGT | 660 |
| | CCTGGGGGAA | TGCCCTCCNT | GTCCCTGATT | CTTCNANTTT | GACATTGTCTN | ATGGGTNCCN | 720 |
| | AAGANTCCNC | TCAATTNTTG | ANTTCTCTCC | CCGNCAGGTN | TTGAANN | | |

1330UP

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCAGATGT | TTTGTGCTAG | TACGTCGCGA | TAGTACTAAA | ATTACCATAT | GCCCATCAGC | 60 |
| | ATTATACTAA | CTAGTGTGT | TTTGCACTAA | GCGGTAAACC | ACCCATTACG | CCTGTTGTAT | 120 |
| 20 | CACCAGAATC | CAAATGCGTT | TTTGAAAAGA | GGTTAATTGA | GCAGTATATC | GATGAGCATG | 180 |
| | GGGTAGACCC | AATCTCCAAG | ACAAGCTTGA | CTAAGGATGC | GCTAAATTGT | ATTGCCCAGA | 240 |
| | CACCCACAGCA | GTACGCGCTC | GCAACCGCAG | TTAACTCGCG | TACGCTCAAC | GCCAATTACA | 300 |
| | GCAATCCCAA | CCTTCTGTCA | ACACTACAAA | ACGAATGGGA | TGCCGTGATG | CTGGAGACAT | 360 |
| | TTGAGCTGCG | GAGTCAGCTG | GATATGTGCA | AAAAGGAGCT | ATCGTCAGCG | CTGTACAAGT | 420 |
| | GCGACGCGGC | TATC CGCGTC | GCGGCACGCG | CGAAACAGGA | GAATGATGAA | CTCAGACACA | 480 |
| 25 | CGTTGACGGA | GCGTGCAGGA | GGCAGTCGCG | GGCAGGCTG | CCGATGCCCC | GCCCCCTCCA | 540 |
| | GCGGAATTGA | TTACCGCGAT | GGCAGAAACG | CACAAGAAATA | TGTGCAGCAA | ACGAAAGAAA | 600 |
| | GAAGGAAATG | AAAGCCAGGT | AGTGACGGCA | TTTGCTCCTG | GAACAGCCGG | TCCAAACGGG | 660 |
| | NTGCGAGGTC | AACCGGTTTT | TTGGTTACCC | GTTTNTTGG | TTCCGGAAAA | ANAATTANCT | 720 |
| | NNCTTTTFAA | CCCCAAGGCA | GGGCCNTNTT | GCTGAACAAA | AAGGGTTTTT | GCTNCTNNAA | 780 |
| | AATTNGCCNC | TNAC | | | | | |

1331RP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GGATCATTTCT | CAGGTATTAG | AGATTGCTGA | TGGGCACGCG | CTTTTTCTTC | AAGGAATTG | 60 |
| | ATCGGAGGCG | CCTCTAGAGT | TGAAACGAGT | TTATTATACT | CAGCCATTGC | TACAAGCATA | 120 |
| 35 | TAATCAATAG | CCGCAGCGCA | ACTCTGAAGA | TGATCTAAAG | AAGGAGCATC | TGCCCTTTCT | 180 |
| | CGTAGAACAT | TGAGAGCGGT | TGCCTCTATA | ACTTCATGCT | TATAAGTGGA | AGCACTCGAA | 240 |
| | ATAACATGTG | ATAAAGGTGG | AGAGTTGGCC | AATGTGTGTA | AAGCTTCTAA | TTCTGAAACG | 300 |
| | GAAATTAGTG | CATACCCAGC | AGCTGCAGCT | TTATTCTTCA | AATGATCGAG | AGAAGGTGAT | 360 |
| | TGCGCTACTG | TTCTCAAATC | CAGAAGAACG | TTCGAATCAA | GGATTTCCAA | GTTTCTTTCA | 420 |
| | GATGCATGTT | TCTTGAGGAA | GCCTTCATCT | GGGCTCTCCG | TATATCTGCT | TCAACTCATC | 480 |
| | CATAGTAATC | AGCAGAAATG | ACAATCCATA | TATGGTTCTT | GGCTTTCTGTT | TGTAGTTAGT | 540 |
| | CGATGGCTGG | ATTTTCCCAT | GGTAGAAAGA | AGAAATATCGT | GCTCTTTCTT | TTCAAACAAC | 600 |
| | AAATATCATA | TGCCCTTGCG | TTTCTCCTGC | CAAAATTTCA | AAATTAGANA | TTTCTNATCC | 660 |
| | CCTTTAATAN | TTCCACATGT | TCCCAATTCC | TCCCATNANA | TNACTGTCTA | ACTGTTTGT | 720 |
| | GCNNACCCAA | AAANATTCTT | TCCTNTCCCT | TTTCCCCANA | TGCTCCTTTN | CCAGTC | |

1331UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGTGC | CTGCTCCACG | AGCGGCTGCC | CAAGGCCACG | CGCTCGGACG | TGCGCTGCAT | 60 |
| | CAAGAGCTAC | GTCTACGGCG | ACGGGCTGGA | CGAAACCCCG | TGGTGC | CCCATGCACG | 120 |
| 5 | CCCCCGGAC | TGCCCCGCGC | AGTCGCAGGA | ACGCCAGGGC | ACGTGCGGGC | CGGGCGACGA | 180 |
| | CGAGCTGCGC | ATCTTCACGC | TCTCGCAGCT | GCTGGAGGAC | CAGTCCGCGT | CCGAAGATGT | 240 |
| | CATCCCCGAT | AGCATGGATG | CGGGCGACGC | GGTCAGCCTG | GGCTCCCCGC | AGCCCCAGGC | 300 |
| | AGGCCTCTCG | CAGCACAGCT | TCTGCCCAGA | TTCCACGCAC | GCGTCGCCCC | TTGGCGCCCCG | 360 |
| | CCGGTTAACC | CCCTTGACGC | GCGCGCCCCG | CTCCCCACTC | CCCGTCCGCG | TGTACACCCG | 420 |
| | GCCCCGCTCC | COGCTTGACT | ACATTCCCCG | CAGCAAGGGA | TGAACCCCTA | CGTCCCTCCAG | 480 |
| 10 | GGCCCCAGCC | AGGCCCGCAG | CCCGCCCTCC | CTGNTTGAAG | GTNNGAANGC | CACCCCTNCCA | 540 |
| | AAANTTTAGG | GGTNGNGGCC | CNNGGCGCGT | CAACCGNTTG | GCGTCCGNAA | AANCCNNTGG | 600 |
| | CGGCGTNNCC | CCNNCTTTAA | GGCGGCNTCG | AACNCGCNT | NTTTCGGGNA | GGGTTTCCAN | 660 |
| | ACNCAACNG | TNNNNCCCCC | CCTTTTTTCT | TCNAANAAG | GCCTNTTGT | GTCNNNTCCG | 720 |
| | CCNNGNNGGN | AATTTTNTTT | TGTGGGGCTG | NNCCCTNAGA | AAACNCCNC | NGGNCNNNG | 780 |
| | GGGAAAAAAA | AANTTTTTTT | CCNTNGGT | | | | |

1332RP

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|----|-------------|------------|-------------|-------------|-------------|-------------|-----|
| | GATCTTTTAT | GTTCTTTTAG | AGCAAGGTCA | ATTTTCACAC | CACTTCTATC | ATCTTATATC | 60 |
| | CAGAAATAAT | TGAACAAGAA | GGTACCGTCT | AGTGAACGAC | GTGATTTTCAT | GCCGGCGTCC | 120 |
| 20 | AAGGTTTCATG | AGTCATTACT | GAAATGAAG | CAGCACTATA | TCGAAATAG | GTGCTCGAA | 180 |
| | CTACAAAAAC | TTCATCAGTT | ATTCTGTAAA | GATAACGTGA | ATTTTTCCAA | AAAAATGATA | 240 |
| | AATGTCGAAG | AAAGAAGAAT | CGTAAATCTT | CTAAATGACC | TAGATGATGA | TGCTAACTTT | 300 |
| | ACTTTTGAGA | CTGTCCATAC | TAATTTTG TG | AATAATGAAC | TATTTCATGGA | ACTACATGAT | 360 |
| | CACAAGTCAG | TGATATCGCG | CGTTTGGACA | TTAGATACTG | CGGAGGATG | CAATCGCATG | 420 |
| | AAGAAAAGGT | TACGACCATA | TACACTCAGC | TCCTCGACTA | TTTCAGGCTC | AAGTTGTCCA | 480 |
| 25 | ATATTGATGT | AGATCCAACC | GCCACTATGA | ATTTNAGTTC | CGAAACTCCN | TTGANCACTG | 540 |
| | TTACCTCCTT | ATTGTGTTTG | TTACNCCAAT | TGATCCCTCC | ANTTTCCGAT | TCTGGAAAAAT | 600 |
| | GGNGGAAAAAC | CNNGGAAANT | GCNGAAAAAC | CTAAAAANAAG | GAANACCGTT | AACNNGGGTTN | 660 |
| | GGAATGTCTA | TTGGGGGGGG | GCCNNANCTT | TTAAAGNNNC | TTTCNNGGGG | AANANNCCNN | 720 |
| | NCTCCCNINA | AANTTTTTTC | CCNNGGGNAA | AAANTTNTCT | GG | | |

1332UP

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|----|-------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCTTTTTT | AGACGCAGTG | TACTATCGAT | GAAGCATATG | ATTATTATAC | AAAACTTCTG | 60 |
| | TCCGATACTA | TTGCATTAAA | CCCGCTTAAT | AGAAAACGAAT | TTTTGGAAAG | TTGCGACACA | 120 |
| | TTAGAGATGT | ATGGAGTCGC | TTCTATTGAA | AATGGCAAGC | ATGGCAAAAA | GGCCAAACAA | 180 |
| 35 | TTGGTAAAAAC | TGATCAAGAG | TACAGTTGAT | GAAAAGGAGT | TCCATGATGA | AATATGTNAG | 240 |
| | ATGGACTTGC | TTAAGAAATT | GATAATATAA | AAGGCTACGA | GCTTCAATAT | TATAATACGC | 300 |
| | ATTGCATAAT | TTATTACATT | AAATTGATAT | AGGTATATTT | TTCTTCGAAG | AAATTAATTCT | 360 |
| | AATCATTTCC | ATGTGAAGAT | ATCGCCCTCT | GTGTTACCTG | CGGATATTTC | GACTCTTAGT | 420 |
| | ATATCTACAT | ATTTTGGCGA | GCCATTATTT | AAACTCGCCA | GCTTGACTCT | GGACCCAAGA | 480 |
| | GCCGTAATGG | CAGCAGCTCT | TCCTGAGCGC | AATTTCTTCC | AGCAATTGAG | GCACCATGTG | 540 |
| 40 | CCGTCTTTTA | ATTCCAGCAC | ATATAACAGA | CCGTCCCGTC | CAATAACCCCT | AACACAATTA | 600 |
| | TTCCCTTTCT | TTCCCATCAT | GTTTCCGATA | CTGGACATTC | CCTGAAATGC | AANTTTAACA | 660 |
| | AGCCTTATAC | CAGTGAATC | NTGCGTTTTG | AAANATGCCN | TGCCAATTTT | AACCCGTGAG | 720 |
| | GTGCGTAACC | TGAACTTTTT | TTGAAATTTT | AACCCCCCCA | ATNANTNTTC | NTTTTTGNAA | 780 |
| | CCCCATGCCT | TGTTCTNCT | | | | | |

1334RP

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|----|------------|-------------|------------|-------------|------------|-------------|-----|
| 5 | GATCATAATC | CAGTCGCTGT | CGAGATACTC | GACAGGAATG | GACGTCAGCG | ATTTGCTCGA | 60 |
| | AGAGCGCCGG | AAAACCTTGT | CCGTTGGCTC | CGGCGTTGCG | GTGAGCGTCC | CGGGCGGGCGT | 120 |
| | GCCACCGCTC | GACTGCAGCC | GCGCACGCTT | CCGCATTATC | TGGTTCATGG | AGAATAGCGA | 180 |
| | CGATACTGGA | CGCTTCATGA | TGCACTTTAA | GGCCACAACC | TCGGCCGTAT | CATGCTGGCC | 240 |
| | CCGCGGGCAC | CCGGCCACCC | GTCGCCCCCG | CAGGACAGTC | CCGAAACGGC | CTCGTCCCTAA | 300 |
| | CCGACCCTCC | AGCATATACT | GGTTCACCTG | CACGCTTTCC | CGGCCCCCTA | TCAGCCGTGT | 360 |
| | CGTCTTTTGC | AGCAGAACCA | TCTCCACCAG | CTTGTTATAC | TCCTCAAAAT | ACGCTGCGTA | 420 |
| 10 | TGTTACTGCG | TCCCCGCCGC | AACCGCTCCT | CCCCAACACC | GTGTCCGTCA | AACGAGAGCT | 480 |
| | GCTACGGCTG | GAGATGCTGC | GCAGCAAGAG | AGAGTGTCTC | CCTTCATTGA | ATTGCACGAT | 540 |
| | AGTAGGGTAC | GAACATCATGC | NCCCTATGCC | CTACACCATG | NANCTGGTTT | CTATTGTTNN | 600 |
| | TCNNGCCCCC | NATNNCTGTT | CCAACTNNTN | TTANCTGGGC | CACNTTTTTT | TNTGGTTGCC | 660 |
| | CCCCGAACCT | CCTTCCCTTA | ACCAATCCTG | GCCCNCTTTC | NCAACAGGAA | ACCTTNTGAA | 720 |
| | CACTTTCCCC | NAAANGTNCG | GAANAAAAAN | TTTTTTTNTAT | TNCCCT | | |

1334UP

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|----|-------------|-------------|-------------|-------------|------------|-------------|-----|
| | GATCCTGCGC | GGCTCCGGCG | AGCCGGACAG | CGCCGCCGTG | GCCATTCTGG | AAAGCGCGTC | 60 |
| | CGCCGGCGGG | CCGCCGGTGC | GCGGCCCTAGT | CCGGCCTGTA | CAAGTCGCCC | CGAACAAAAC | 120 |
| 20 | GCTTTTTCGAC | ATCACCTCTCA | ACGGGCTGCC | CGGGCCTGCG | CAGTACTACG | CCTCGATCCG | 180 |
| | CGCGTCTGGT | GATGTGTCCC | GCGGCGCGGC | GTCCACCGGG | CCCGCGTGGC | ACGTGTTCTGA | 240 |
| | AGACGCCGTC | GCGTGCAGC | GCGCCAGCCC | GCTCGGCGCT | GACCTCTGCG | CGGGCTCCGC | 300 |
| | CCTGTTTCGTC | GCGCCGCTCG | CCGTGCAGGC | GCTGATCGGC | CGCGGCTTCC | TCGTGGGCGC | 360 |
| | CGACCGCGCG | CACGCGCTCG | CCGGCGCGCG | CGCGTCCGGC | GTGCTGGCGC | GTAGCGCCGG | 420 |
| | CGCGTGGCAG | AACGACAAGG | TCGTCTGCGC | GTGCTCCGGC | GACACGCTGT | GGCAGGAGCG | 480 |
| 25 | CGGCTCCGCG | CGCTCCGCGA | ACATCGCATG | AACGTGTATAC | TACATACCTG | CTACGTTGTG | 540 |
| | CTCGCGCCCC | CCGCCAAGCG | CTNCTTCCAN | CCGGGGGGGC | CCCGGGGGCC | TTCCAACCTCA | 600 |
| | CCCGCGGGGG | GCCCGCGCTG | GCCCGAAAAC | CCCTTCCGCG | AACGNCCAA | AANNCCANN | 660 |
| | CCNTACNACN | CCCANPTANC | CAACACNTTC | NTCAACGGGT | TNNTNGCCCC | CCCCCGNCC | 720 |
| | TTCTCCGGNG | TTTTTTTTTT | CCGGANNATT | NCTGNTCCCN | CCGTNTCCCN | CCTTATTTTG | 780 |
| | NNNGCCCCC | CCCCC | | | | | |

1335RP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GAGGCAACGG | AGGTGGCGGT | GGTATCAAAG | GTCTGGTAGT | CGCTATGTCC | TTTCCGAGCT | 60 |
| | TTTGGGGTTT | TGTGGTCTTG | CTTTTGTGG | ACGCTAAGGT | TGGGCGCGGC | GAAATCACAT | 120 |
| 35 | GCAGTGGGCG | CGATTCCAGG | TCCGCCAAGT | TAATGGGANA | CACCGCGCCG | CTCAGCATAG | 180 |
| | TGCTGTGGGT | CCTCCTATGT | GATTGCGACC | CAAAACGTATG | GTCCGCCCTT | GGGTGTGTCAT | 240 |
| | TTTCTGACGT | TGTTATTTCC | TCCGGGCCAC | TAAAACCTGCG | CCTACTCTGA | TTCTCTGTCA | 300 |
| | GTAACGCAGA | GTAAGACACA | CGCTTGCTTC | GTGTGAGCGA | TAGTGTGCGA | CATAAATTAC | 360 |
| | TATGCGGGGA | NCCNTNCCAA | NTTTAACCTN | TGNNAANAAA | ANACCCAAAC | TNTTTCAAAA | 420 |
| | CCCAAANTTC | NATTTNGGGN | NCNGAAAAATN | CCGNTTGGGN | AACCCCGCGT | NNNGGGGTTT | 480 |
| 40 | AAATGGGGTT | TCCAAAAAAA | ACCCNCCANT | TTTCCCCCCC | CCCCCNAAAT | TNTTAAAAAN | 540 |
| | NCCTTTTAAA | AANNNTNNTT | NTGTGGNGNC | CCCCCCCCCC | CCCNAAAAAA | AATCCCCCN | 600 |
| | AAAAAANCNG | GTNTTTTCCC | CNTNGGGGGG | AAACCCCCCC | NAAAAANNCN | ACNTNCCNAN | 660 |
| | NNGGGGNCCC | CNNCCCCCN | ANCNCNNTGG | TNCCCCCCTT | TNANAAAANG | GNCCCCCAAN | 720 |
| | CNTTTTTTTN | NNNNNNNNAA | AACNCCCTTT | TTNNCCCCC | CCCCNNAAAA | AATTTTTNNN | 780 |
| | NTNNNTTTTN | G | | | | | |

1335UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCAGATAA | GAATTGAAGC | TCAGCGGCTG | ATGAGCGCAC | TGCTTCCGAT | ACGGTGGTCC | 60 |
| | TGTACCAGGC | TGATAAAATG | TGACACTATC | ACCATAATGG | GGTTGTAGCT | GGATACGATG | 120 |
| 5 | TCCGGATGCG | GATGGACTGT | TCGGAACAAG | ACGTGCAACG | TGCGAGGCC | ATAGTGGGAA | 180 |
| | ATCTAAATTAA | CGTATTTACA | TATCAGTGCG | GATGTGTCTA | GGTGCCGGCC | ACCTCGATTT | 240 |
| | CCTGTCACTG | GACAGCGCCG | TCATATAAAC | ATTATTGTTT | AGGGTTTAAA | GTTGCTTTGT | 300 |
| | GCGGTGGAAA | ACAACGTCAC | ACACTAACTA | AATCTAACTC | GAGCCAGCAA | GCAACTATGT | 360 |
| | TAAATAAGCC | GAACAGTTTA | CGATTCCAAG | GGCACGGTGG | AACCCCCCAA | GGCCCCGCTC | 420 |
| | CNANTCNTTC | CCTTACAAAA | AGGGAGGGGG | GCCCTACCAC | TACCGAAACC | ATACNGGTTN | 480 |
| 10 | NAAACAACCC | NAANCCCGTT | TTTCCCCCCC | CCAAAATTAA | ANANTGGGCG | CCCCCTGNNC | 540 |
| | NCNATTTGTT | NNNTNNANGG | GGANAGGACC | CCCCCCCGGG | GNNNGGNTCC | CCCCNNTCNA | 600 |
| | AAACCAANNAC | CCCCACCCCN | ANAAAAANGG | GGGGGGGGGN | GGAAACNCCC | GATTTCTAAA | 660 |
| | AAATTTAAAA | ATTNNNNNGAA | ACCGNAAAC | GGNGTGNNCN | TNCCCNNNNG | AAAAANGTTT | 720 |
| | TTGTNGNNNA | CANCCCCCAA | CNNPTNNAG | NNNCCCGNNC | CCCCAAACNN | AAAANTTNC | 780 |
| | TNGNANGGGG | AACCANTCCC | CCCCCNT | | | | |

1336RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCATGTTT | AACCCAGATA | CGAAAACCTGA | GAAGCTAGAG | TGGATAGAAA | AGCTGCGAAA | 60 |
| | AGTAATAGAG | CTGAACAGGT | TTACCAACCC | ATGGGTTAAA | AAGTTCTTGA | ATAGCAGTGA | 120 |
| 20 | GAATATTCTC | TGAAGAAAAG | CATGACCACA | GGATTACATA | GAGTAACTTT | TGTGCAAAGT | 180 |
| | TTATCTGTAT | GTACAATTTT | ACGTTATATA | TTTAAAAAGT | ACTCGGGCAA | AATCGGCACT | 240 |
| | TGGTAGCGAT | AACGCACACT | CGAGTGAAGT | CCATCCAGTA | CATAAACATT | ATGTCAACTA | 300 |
| | CTTACCATTA | TTGCCATTGC | CAGATGAAGT | ACCCATGTTT | TGGTGATTGC | CTGACCCATT | 360 |
| | GTTACCACCT | GCAGCGCCCA | GGTTTGGGGG | AATCATGCCA | GGAAAGGGAA | AGGGCGGGAA | 420 |
| | ACCCCGAACA | TGGGTGGCAT | ACCCATGGGA | AACGCCAGGC | GGCTGCGGCA | GAGAACCGTT | 480 |
| 25 | GTTTTGTGTC | CGCCAAATTG | AAGTTCTTTG | GTTTNCNNNN | CCCCCGGCA | AAAANCTTAA | 540 |
| | CCCCGTCCCC | CNGCCCCCN | TCCCCCAANC | TTTCCCNNTG | NGTGTGGAGC | CCCCAAACCC | 600 |
| | CCCCATATNT | TNNCTGCGCC | GGGGTTTNTN | CCCCCNGGGA | GACCCCCCCC | CGCNTTGTGN | 660 |
| | NTNTTACCCC | CACCCNCCCC | CCCCCGGAA | ANCCNGTNTT | AAAAAATNCN | AANAANNTNT | 720 |
| | GGCCCCCGNG | CTCCCCGGGG | CTCCCNATATA | CCCCCGGNN | GTAAATTNNC | NAAGNGGNCC | 780 |
| | CN | | | | | | |

1336UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | ATCGCCATTT | TAGGGATGAT | CCCGATCACC | ACAGCTCCGA | GGCCCTTGTA | GAAAGCCAGC | 60 |
| | AAGCCCTCCC | CGCTGTAGAT | GTTGGCCCCC | GTGCGCAAAA | ACCCAGGGGG | CTTCGTGCCC | 120 |
| 35 | TCGTTTCGCG | GCCTGTAGAT | CTGCATGCGC | ACCTTGATCG | TGTCCAATGG | GTGGCAGCAG | 180 |
| | AGCGCCTCAA | ACAGGCCCGC | GGTCCCGCCC | GCAACTAGGT | TCACGGCCGG | GTTGGTAGAT | 240 |
| | TTCTTAGACG | ACATGTGGTT | ATCAGGGTAT | GGCTGTCTGG | ACACTGCGCT | GCACGGATCC | 300 |
| | GCTACGCTTC | TGCGTCCGCG | ACCTATATAT | ACAAACGGCA | CCGACGGCGG | GCCGCCCGCA | 360 |
| | CCTTGTCTCC | GACGCAGCGC | CAATAGGAGC | TCGCGCATAC | CCCCGGGCGA | ACGCGGTGAG | 420 |
| | TCAACCCGGC | CCGAAGCGCG | GGCCAAATGA | ACCGTCACGT | GAAAAGCAAA | GACTTAAAGT | 480 |
| 40 | ACTATGTAGC | TACACACTTA | GGCCTCGGCC | ATCTCGCGCA | GTCTGCGGAT | CGTGGAGCGC | 540 |
| | ACGTGCGGGC | GGCAGCCGTG | GAGACGTGTT | ACGCACCACC | GGCCACAGTC | NTCCTTTGCA | 600 |
| | CNAACCTGCA | NTTCCCAAAN | NCCCGNAGCG | CCGCGCTTCN | CCGCCTTCTT | TGCCGCAAAA | 660 |
| | AGAACATCCT | TACCAACTTC | TTGTTGCCCT | NCCACTTCTT | NAACCTGTTT | CCNNCACGAA | 720 |
| | NAANCCTACC | CCCCCCNTT | TTNCCGNNA | TCCNACCTTN | TNCNTNCTTT | TACCATTNT | 780 |
| | NTTNAAGGG | TGN | | | | | |

1337RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTAATT | TAAAAATTTA | ATTAACATTT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAATA | 120 |
| 50 | AATAGAAAAC | CATAAGTTAA | TTGATTCATA | AAGAAAAATG | GAATTAATTTG | TGGCATCTTA | 180 |
| | ATTTTATTTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATATA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTAAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | TTTCATAATA | TTTATTTTFA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TCCCTTTAAT | 480 |
| | TGGATATTAC | TACCTACTAA | ATATTTACCT | AATAATATAT | TATTAAGAAT | ACTTAAATCT | 540 |
| | AATAATTTAT | TATCTAAAGG | TATATAAATT | AATTAAATCC | TTTTTTATTA | TTATTTAAAT | 600 |
| 5 | TATTATTAAT | AGTAAATTAT | ATTATTTATT | TTATTCACCA | TAATTTTTTT | GATNATAATA | 660 |
| | TATCCTTTNN | TAAATGGGGA | ATTTATNAAT | AATTANCTTC | NANGAATTTT | AATGAANAAC | 720 |
| | CCCCNTTANN | ATAAAATTAG | TTAANNNTGN | NCTCAAAANN | CCNATCA | | |

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1337UP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| 5 | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATTGAGTTTA | TATTAATTC | ACCACCTCTT | ATTCAATTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCCTAAATA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAATTG | 240 |
| | GTAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| | ATCATTAAAT | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAATGCTGA | AAGCATTAGG | 360 |
| | GGTGTGTACC | TTAGCTCTCT | AAATTAAGTT | ATAAAATTAT | CTTAACATAAT | AAAAATAATT | 420 |
| 10 | AATTAATAAA | ATAAATAATT | AATTAATTTT | AAAATGTTTA | AAAAAAGAAA | TAAATAATAT | 480 |
| | GTTATATTTA | AATAGATCAA | AATTTCAACA | ATTTCCATTT | CATTTAGTAC | TACATCACCA | 540 |
| | TGACCAATGT | TACATCATTT | AGTTTAATAG | GGTTTACTAA | TAACCTTTAN | CCTTTTACCA | 600 |
| | AANNANNGGT | ANTANTNGGA | AAAATTATNC | CCTTAATAAT | AACCTTNATN | AANNNATTNT | 660 |
| | ATATACCAAA | ANNNTNTGAN | ATTTNAAAAA | ATATNGGCCG | AANCNNCNTA | TTTTGNGTAN | 720 |
| | CCCCNCNTA | CNCCNGAAAA | AANGNTTACC | CGTGTTCCCC | CNTATNNTGN | NTNCCCNAAA | 780 |
| 15 | ATAAAAAATG | NGCCCCCAC | | | | | |

1338RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAACCCG | AACCCGTCAC | TCANGTCCAG | ACCGTTATAG | AGACGGTCGT | CGATGGCACT | 60 |
| 20 | ACAAGGCCGG | CAAAATGCTT | GCTTATGAAT | AGCACGGTTG | AGGTGATAAC | CGTTAAGGAA | 120 |
| | ATAGTGAAGG | AGACAGTTTT | CGTGAAGTGG | AAGGTGACTA | ACTAACTCCA | ATGCAAGCAG | 180 |
| | AACGCTTTCT | GTCTTTTGT | CCAAACCTAC | CTGAACACCT | AAACTTAGTT | ATTACAACAT | 240 |
| | GAGTTTATTT | TACACAGTAG | GGTGCCACAG | CCACAGGAAA | TATCCAAAGA | AATTAGCTTT | 300 |
| | GCCTTGATAA | AAGATATTCA | TCCCTATTCA | GCGACCCCTC | TAATACGCAT | TCTCTAGAAA | 360 |
| | GTTCCCTGGC | TTTCATTTTA | AATCCTCGTG | CACCTCGTCC | GTAACAGTGT | CTATAGTATC | 420 |
| 25 | ATTCCGTATC | ATTTCTGAAT | GAAGTAGATT | CCATATCAAC | ACTTGCCTTG | GTGGAAAGCT | 480 |
| | CATTATCTTG | AGCAGTAATG | GCTTCACCTC | TATCCTGTTC | CAACATACTT | TTTTTAGCTG | 540 |
| | CCCGGATTAA | CCTCCCTGAA | TTCCCTTACG | ATGCAGTCCA | GACCCATGCC | GATTTATCAA | 600 |
| | ATTTATCTGT | CCTTTAAANA | ATTTTAAACC | TTTGACNCCC | CTATTATTAT | TTTTTAGCNT | 660 |
| | ATCGTAATGC | TGCCNGANCC | CCCNAAANGAN | ATGGGGTTTT | CCNTATTANC | CTTTGGTTCC | 720 |
| 30 | CCAANTTAAA | ACCCNCCCCG | GNCCCCCCCC | CCCCCACCEN | GGTGGGANAA | T | |

1338UP

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|----|------------|------------|-------------|------------|-------------|-------------|-----|
| | GATCAGGTTT | TCCGGTACGT | GAGAACGTAT | CTAAGGCACA | AAGGGCTTTG | GGCGACTGTG | 60 |
| 35 | CGGACGCTTG | AGTTGCNAGA | TACAGGACAA | AGCTGTTACG | GCGGCACACTG | GTGCANACAG | 120 |
| | AGCAGCCGAG | GAGCGATTCT | GCGCGAAGCG | ACGGTGAATT | CGAGCCAGCT | GGTAGCAGGA | 180 |
| | GTGCCGGATC | GTCTATTTAG | TTGCGACGGG | CGTCGGAACA | GGATGCACGT | AAACGTTGCG | 240 |
| | GTAACACGCG | ACGCTGACGC | GACGGCTGCT | ACGCCGATAG | CACGGGAGCG | CAAAACGACCG | 300 |
| | CAGCCGCTGT | CGCCAGAGAT | GTCTTCACCA | CTGCGCGGTA | GGAAGCTGCA | GCGGCGGAAG | 360 |
| | CAGACACTTG | AGGCCGGTCC | GGGTGCGGCC | AGTGGGACAC | ACACGGTGGA | CGAGCTGGCC | 420 |
| 40 | GCGCAGCTGG | AGCGCGGCTG | CGAGCAGGCG | TGGGAGCGGA | AGCCGCGGTA | CTCGTATGCG | 480 |
| | GTGCTGATCG | GCGTTGCGAT | CCTACAGTCG | CAGGAGGGCA | GCTGACGCTG | TTTCGNAAAA | 540 |
| | TACCGNTGNA | TTTCCNCCNT | CTCCCCCTAN | TAACCGGTGT | TTTTAACCCG | GGGTTGGAAA | 600 |
| | ANANCTTCCG | GACNACNTNT | TNCTTAAACA | ANGGTNTTGT | TTTAAGGGGN | GGNNNCCCCC | 660 |
| | TCAAAGGANG | GGCCTTTTGG | AAAAATTAAAG | GGGCCNTTNA | NGGGGGCCTC | NCTTNNCCAA | 720 |
| 45 | AAAGGGGGAA | TNATTTTNGG | GGCCCANATT | TNNCAAAAAT | TNTNCANTAG | GGGGNCTNNG | 780 |
| | NNAANTTTNT | TCNCTT | | | | | |

1339RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCATCGCC | TTTAGGCCCA | TGTCAACCTT | GCCCCCACC | ATCAACTCCG | TCACGTCGGA | 60 |
| 50 | CGGGTTCGTG | GGCTCGAGCA | GCGCAATGTC | CACACCCTCC | TGCTGAAAGT | AGCCCTTGGA | 120 |
| | CTGGGCTAGA | AAAATCGCAA | TGTGGTATGG | CGCAGGCTGC | CAATTCAATA | GGAATGAAAC | 180 |
| | TTTGCTAGAC | ATCTTCGGTG | CAGTCTCCGC | AGCTACACCC | CATTGCATCC | AGGCTCATCA | 240 |
| | GCCGCTTTAT | ATACCGCTGG | GCCAAAGATG | ATTGAATACG | GTTCGCAGAC | GGCTACTGGA | 300 |
| | ATACCCGTCG | CGCCACAAGC | CCGCCACTGG | ATGCCATGCG | CCAATGCGGA | AGCCTCCTAT | 360 |
| | GTGACATGTA | CTAACAGAGC | AGCTTCCTTA | TGCACCTTATC | GAGCCAAAAC | CAACATCTGC | 420 |
| 55 | GGAATCACAC | TTGACGGAAT | CCGGCCCCAT | GCGCAGCTGC | TGGAACACAA | AATCCAGCAA | 480 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| 5 | CTAATAGGGC | TCAGTGGTAT | AACGGGCCAT | CGCTCTCTCA | ACGCCAAGTC | CCTCTCTGGG | 540 |
| | GAAAACATGT | GATCACGTGC | TACATATTCA | ACCCCCGTCT | TACCTCATAG | CTGCGCATGT | 600 |
| | CCAGCCCTGA | ACTGTTCCGA | CCTTCCGTCT | TCCNGAAANC | CTGATTGCCT | TGCTTTAATT | 660 |
| | CCCCCTCTCC | NCCAACCATG | TNTCGCCCAT | TTACTTCCGT | TGCTTTTPTA | TTTCGTGCAT | 720 |
| | TGTTTTTMTA | AAAGNNCCTG | TTAANTAAAT | NCCNTCATTN | TGGA | | |

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1339UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCGCA | TTTGTGATA | GTGGCTTTGA | TTGAAAAAT | CCGATCATT | CCATGCTGAC | 60 |
| | TATACGTCTA | CTGACCAACG | CCTTTGCAAA | CAAAGACTGG | GGCGTTAAAC | TAATGTCGTC | 120 |
| 5 | TGCGCCAAATG | TATAACTCGA | TATTTGGGTT | GATTGATGCA | GACCACCCAA | CTTGTCTCTC | 180 |
| | TAAGCAACAG | TCATCACTGG | CCGTAGCAAT | AGCTACCCTA | ATATACAACT | ACTCAGTGTT | 240 |
| | GGTAGTAAAA | GAGAACAACC | ATGACATCCT | AGCAATTGTT | GCAGAGGTT | TAAACAACAA | 300 |
| | ATACGGCTCC | TCTTCCTTTA | TCCTGCGGAA | CGAGGAGGCC | GCATACAGAC | TCCTTGTTGC | 360 |
| | TTACGGAAAC | TAAAGTACTG | TGGAAGGCAC | CTTCGCACAG | TTTGCTCCTT | CTATCTCATG | 420 |
| | GATAAGGAAG | CTGAAGAGCC | AGTATGGCCA | CATATCGAAA | TTCCAGGATA | TTTTAAATGA | 480 |
| 10 | TATTTAAAGA | AAGGTGTACG | TATATATCCT | ATTCTTTTGA | TCGCTGTCCC | GAGGCCTTCC | 540 |
| | CGGAAAAATG | GTGAAAACCT | CGCTCTTTGA | CACACAGCCT | TTGCCCTTCA | ACAGGATAGT | 600 |
| | TTGAAGGGAC | ATGTTCTGTT | GACAAANCTT | GAACCAGGGT | ACTGGTGNAA | AATTTNAANA | 660 |
| | TCTTTTCTCC | NCCGAAANCN | ANTTCTNCGG | AANTTAACGG | GAAAAAANNC | CCCCTCNRNC | 720 |
| | CTTTNTTTAN | TAACCCCCCC | CAGGNTNTNG | ACCTTGATTT | TTACAAAACC | TTTTNTTT | |

1340RP

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|----|------------|-------------|-------------|-------------|------------|-------------|-----|
| | GATCGCCTGA | TATCGACAGG | CACTTTTGTA | TATTAGCAGT | ATTCTTGACG | AGATAATGCA | 60 |
| | GTCAACTCCT | ATATAGAAAC | CGGATACAGT | GGTAAAAACG | CRAATGTAGG | CAATTATATA | 120 |
| 20 | TTACTCTTCT | CGACACCACT | AACTTCTCGA | TAGCGGCATA | TCTTGTAAT | TTGCATACAC | 180 |
| | CTTTTCCCAA | CTTTCAGTGG | TCTCGTTGGC | GTACTTTTACA | TGCATCTTGG | CCCATTCTCTG | 240 |
| | GAAGACATGT | CTTGACAAAT | ATTGAGTCTC | CTGGAAAAAT | ACAAATTCCT | CTAAAAATGCA | 300 |
| | CTTTCTAAT | AGCCAGGACC | TGTTTAGTTG | CTCAGCAATT | GTCCGTTTGT | CCCGTTGAAT | 360 |
| | TGTCTGTCTG | AGTTTATCAT | ATTCTGCACC | TTTAACGTCC | GGATTACTCT | CCATAGATTG | 420 |
| | AAGTTTGTCC | ATATTTATTT | CCACTCTCCT | CTGCAAATGT | GCTATGTTAT | TCCCCGCCAT | 480 |
| 25 | AATTTTATAC | CTATCAAAGA | CCCCTTCACT | GCTATAATAA | TATCTATGAA | GGTCTTAAAC | 540 |
| | TTACCCGATA | GGTGTTCCTC | CACTTCCCTGA | CGCTCCTTTC | TTAGAGGTAT | CGGCCACGCT | 600 |
| | ATTGAGATGT | TTTGTGATATN | NTGGAAATAT | GANATTTAAA | TATCNTGAAT | AGTGCCCTCTT | 660 |
| | CCTATTGGGT | ANAANTGTTN | CNGAATTATC | AANCAATTCC | TCCATCACNC | NGCCAAGCAC | 720 |
| | CCNCCGTCTT | TCNAANACCT | GCNCTNTGCC | CCGTNCGGTT | NNNNNA | | |

1340UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTGCTGT | ACCTGAATGG | ACTTTGTCTC | CTGAAGTAGA | AATGTAATGG | CCCCCTCGGG | 60 |
| | AATACATAAC | AAACATAGCG | GAGACAAAAA | CAAAAGCGTT | ATACACGCAT | CTGCCGTTAC | 120 |
| | ATCACCGTCA | GCTCCTTGCA | GACCAATAAG | CCTTCAAGTT | AAATATAGGC | TAGCTATAAC | 180 |
| 35 | ATATTATGTC | GCTAAGAAGG | GCCAAATCGT | TGCCATCGCT | TAAGAAATATC | GCTGAGGTGG | 240 |
| | CCAAGCCCAT | CACCAAGGCC | CCCCCGCTCC | CCCTGCTTGC | GTTTGAGGGC | CCTGGGCTGT | 300 |
| | CCACATGTGC | CTGGTATCCC | ACCACCGTGC | GCACAGTGCA | CAATACCCCC | AGTAAGGCTG | 360 |
| | AGACGACGCT | GCTCTCGACA | GCGAAGAGG | AGAGTGCGTT | TTCCGCAATG | AACCTGAAGG | 420 |
| | CCTTGCGGAA | CGAGTGCCCG | TCCCGAGGCT | CAGGGTCTCC | GGGCGGAAGT | CGGATTTGAT | 480 |
| | CGAGCGCAT | GTCGACTTCG | AGCTGAAGGG | ACCGCTGGGC | AGGCGCGGGA | CACGGCGGGC | 540 |
| 40 | GTTCCACAGC | CCGGGCACGA | GCAGCGCCAG | CGTATGCCGC | CCGTGGACAA | GGTCACCATG | 600 |
| | CCCGACATCG | CGCTTGACAG | AACGAACCCC | GTGCCACACC | CTGAGAAAAA | CTACATACTC | 660 |
| | CGGANTCCNT | CNTTGTNCCN | CCAAGGGGGT | TTCCCTCCCC | GTTACCNATT | CCNAAAAGAT | 720 |
| | TTTTGCCNCG | GAACCCANGA | AGAAACCACC | CGAACTCCCA | GAAGGGGGNT | TTNNNNANCCG | 780 |
| | AACCGAANCT | | | | | | |

1341RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCACATCC | GATGCGAAAC | TCGTATATTG | TTTTCCACAC | ATGATGAAGG | TGAGTGTGGG | 60 |
| | GCAGCAATTG | TCCGGTTGAC | GACTCCTATA | GGCCCGGGCA | TGCCACAGTG | ACCAGAAATT | 120 |
| | TGCAATGTGA | TTCATGATGC | AAATGGAAAC | CCCATCCAAG | TTTCACAGTC | GCAAAAGAAC | 180 |
| 50 | AGTTGGATCC | TGACAAGGTT | CTTCTGTTAG | GCAGCTCTAT | AGACACTCCG | GTTGCTGTTG | 240 |
| | CTGCGGATGC | AACGAAAGTG | TCCGCCCATG | CTTTACTCCA | GGCCCTTTTT | ACCTCTAACG | 300 |
| | AAAGTGAAGT | AACTCCTGGA | TGTATTACCT | TTTCAGCAAGT | CAGAAACCTG | ACCAGGTTCTG | 360 |
| | ACTAGTTTTT | TATTGAAGTC | CGTGCTGTCT | CAGTATTTGA | AGCAGTTAGT | CCCACGAATG | 420 |
| | AGAAACTTAA | AGAATTAATG | AATGGGGGAG | ACTCAAAATT | TACGGCTACC | ATAAGACTCA | 480 |
| | CAGACTTACT | CGACTCGAAC | GTTTTCGTCC | GCACTTTGTC | CTGCGAGTCA | TATACAGAGC | 540 |

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|------------|------------|------------|------------|------------|-------------|-----|
| CCTGTATCGC | GTAAACACC | GGATGCGCTA | CAGCAAGGTA | CTCGCCTACA | AGACAACACC | 600 |
| CTACGTACGC | CGTTTCACAG | TATGCAAATA | ATNGAAGGCA | TTTCCTCCNG | ACTTTTTAGC | 660 |
| NAAAGGNTTT | ATNCGAAGTG | ANCCCTGTCC | ATACTTTATT | CCCCCNANCC | CNGTTTTTCNA | 720 |
| AAAANCAGNG | AACCATACNA | TGCGTTTAAT | AATGAACNTT | CACNT | | |

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1341UP

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|----|-------------|------------|-------------|------------|-------------|-------------|-----|
| | GATCAGAGTA | GATTTAGTAA | AGAGGTAACC | ACCACTGTTT | CAAGAAAGTCC | AGGGCCTTGG | 60 |
| | CTTGACCAGC | ATTGGTAAGT | GCTGTGGCTG | GAATTTTGCA | CTTAAACGGT | CTGAGCTCAT | 120 |
| 5 | CTGGTTTCGCC | AAAGACCTAT | GAAGTTTCAA | AACACCAACT | TTGCTGCCCA | TTCTATATTG | 180 |
| | AAATGTATGA | CAGATGGCAG | GTGCCCTTACC | GTACACTGTT | TTATTGGTAA | CTGGGTCTAC | 240 |
| | ACCTTTTCACG | TTCACCTTTG | CCACATGGAT | CAACATAGAA | ATTAAAAGAG | AGCCAACCTT | 300 |
| | AGCCTTGATA | TTGTGCGGCC | AAAGAACTTT | AGACTCCTCA | ATTTGTGTAT | TTCTAAACGT | 360 |
| | GGTTTTTGCC | CTTTGGACCA | GCTTCCTTGA | TTCGTACTA | TTGGCCCTAA | CTTCCTTAAA | 420 |
| | AATCGATTTT | TCACTCTTCA | ATAGTGCTTC | CGATCTGTAT | TCCATCTCGA | CAGCCTTACC | 480 |
| 10 | TATAGCCAGA | ACCGCTCCTG | GTTGTTCTCA | TACCTTCACT | GACGCTCCA | GTTAGAATTTC | 540 |
| | CAAGCCTTTA | CCNATTCCCC | AAATTGTTTA | TGAANACACA | TTTCNCCTNG | ANTNACCCCA | 600 |
| | AATTGAAATT | ANGGGGNCTT | TTCCANNCCN | TGAAANAAAA | TGTNGAACGG | NGTTTCAGTT | 660 |
| | AAGCCCATNT | ATCACTNGGN | ANCATTCCNN | AAAAANGCTT | CCCCCTCCC | TTTTTAAAC | 720 |
| | GGGATCTTNC | CAAAAACCN | CCCCCTNAAT | GAACCATTTT | NCGAAANCCG | GAAGCCCNNG | 780 |
| | CCCTCNCCGN | CTANATTCCN | GCAANNCATN | | | | |

1342RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCTGATT | TTGATTTCCG | CATTGCTGAT | GTTAATGCAC | TCAGTGCTGA | TGTCCTATAT | 60 |
| | ATCCAGCATG | AATTATCCTG | GTGGATATGC | GCTATCTGCA | TTCAACAAAT | ATGTGCTGGA | 120 |
| 20 | CAATAATATC | TCCAATGCCA | CCGTCCACCT | AGATGTCTTC | ACTTGTATGA | CGGGTGCAAC | 180 |
| | GCTGTTTGGA | CAGCTGCCGG | ACTCCTACGG | GATCATATAT | GACAAAGACTG | AAGGTGATGA | 240 |
| | ATTATTGGAC | GCATGGTCAT | CGTTGATTGA | TGTCATFACA | ACTGATCCCA | ACAGCTCACT | 300 |
| | CCCTCCTGTT | ACAGGCTACA | AATGGGAGCG | CATCCAAACT | ACTGAGGCCT | TTGACCGCTT | 360 |
| | CGACCTTAAA | ACTATACCGG | AAATAATCAA | CTCAGAAGTT | GCTAAGGGAT | TCCCTATCTT | 420 |
| | AAAAGATGCA | ATACTCTCTG | CAGACCTGCA | ACCTGTGAAG | GCTGCGTTCA | CAGATGTGAT | 480 |
| 25 | CAGGTGCAGG | GATTGAGTGT | ATACATATAA | AAGAGTTGAG | AATTAATAGA | ACCAGCGCTC | 540 |
| | CGCTTACGGA | CAGTTTCCAT | ATAAATATTT | ATTTATTAAA | CTTAAAAGTT | CTGCGAGTTG | 600 |
| | AGGAGGAATT | TGACTGCTGG | AGATTCCGAC | ATACTGAAAA | CATAAAGTGC | ACATTTACAG | 660 |
| | GATTCGGCAG | TTACTTGATT | CCCCNTCCTN | NNCCTTAAAT | GCTTGATCNA | ACTTNAAACA | 720 |
| | TCCTATTGAA | CCCCCTTGG | TGNTCCAANC | AAANTNTAA | | | |

1342UP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCGGGCAG | GCCGCGGAGC | AGCAGTCGCG | CGCCTTCAAG | GAGGCCGCAG | ACTTCGGCGC | 60 |
| | CATCATCTTG | ACCAAGATGG | ACGGGCACGC | CAAGGGCGGC | GGTGCCATCT | CCGCGGTGGC | 120 |
| 35 | CGCCACGAAA | ACACCCGTGA | TCTTCATCGG | CACAGGCGAG | CACGTACACG | ACTTCGAGAA | 180 |
| | GTTCTCGCCG | AAGTCGTTCC | TGTCGAAGCT | GCTCGGCATC | GGCGACATCG | AGTCGCTGCT | 240 |
| | GGAGCAGTTC | CAGACCGTCT | CCAAACAAGGA | GGACACCAAG | GCCACCATGG | AGAACATCCA | 300 |
| | GCAGGGCCGC | TTCACGCTGC | TGGACTTTCA | GAGGCAGATG | CAGACCATCA | TGAAGATGGG | 360 |
| | CCCGCTGTCC | AACCTCGCCA | GCATGATCCC | CGGCATGAGC | GGCATGATGA | GCGGCATCTC | 420 |
| | CGAGGACGAG | ACCAGCCGCA | AGATGAAGAA | GATGGTCTAC | GTGCTCGACT | CCATGTCCCG | 480 |
| 40 | CGAGGAGCTC | GAGTCGGACG | GCGCTCTTCA | TCCACGAGCC | CGCCCGCATG | CTGCGCGTCC | 540 |
| | CCCCGCGGNC | CGGGCACCTT | CCGTCTTTCC | GAAGTNTGAA | AATATCCTCC | NTTGCCTCAG | 600 |
| | CCANATGATT | GCCCCGNTT | GGCCCCANGGC | GCCNANAACA | TTGGCGGCTC | CCCTGGCNTG | 660 |
| | CCCCGCCNGCC | CCNGGNATGT | CCCCGCCTCT | CNCCTCCAAA | NGATNTNACC | NGCCCNANCN | 720 |
| | TCNNTTNNCT | CAACCCNCCC | NTGANNCCCN | CATAATGGCT | NNNCCGNNGG | GGNCCNNGGC | 780 |
| | CCCCATGCC | CCATTAGGCN | AT | | | | |

1343RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAACCAA | TGTGTTAAGG | AAATTTTTTAA | CGTTTTCCGG | GGATTTGGCC | ATCTTTCCCT | 60 |
| | CTAATTGGTA | GGAAACATAG | TCTGTAGCAC | CCATGATATT | AGCAAGTTTC | CGCCGAAGCT | 120 |
| 50 | GAAGCAAAC | CTTAAGCCTC | TTCACTTGTT | TTTCGGAACA | ACTAAACATT | GCGGTCCATA | 180 |
| | CTTGCTTCGG | AATAGCCTCT | GAAGGACAAG | CATTCAATAG | TGTATACGGA | GCATACCCAC | 240 |
| | TAGTTGGTAT | CTTATAGTTA | TTACCCATGG | TGTCCTTGTT | GAGCTGACGA | AGAACAAGAT | 300 |
| | GGCTAGTGCC | AATCTTTTGC | ACGGAATCTT | TATGTAGCTG | GAAGATAATG | GAAGATAATG | 360 |
| | ATTCTGTGTT | GTTGATGAAG | TCTTGCCCAA | TAATGCTGAT | GTTTTGGGAT | AACTGTATAA | 420 |
| 55 | ACTGCTTTCT | GACTTCGGGC | GACGCATATG | CGCCTGCTTT | TTCAAAATCC | TCTAGCAATA | 480 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | TATGGCCTAC | CCGTATCTCC | TCGCTGCTCA | GTTTACTGCT | TATATTCTCG | TCCGATAGCA | 540 |
| | CTTGTTTTAA | TCTTTTGCAA | AGCACAACAT | CTGTATTCAA | GATATCATAA | TCTCAAACAT | 600 |
| | CTGTTTCATGA | CATTCCCTGA | GCTGCGGCAA | CAAATTGTTC | ATCCGGATGT | TGCAACCCGT | 660 |
| 5 | TAAACTCCNC | ACAATNCAAT | CCCCCGGCAT | AAAATCCTGA | TTTGATCTAT | CNAATGATNT | 720 |
| | NCNCCCAACC | TCTTGTGACA | ACCCTCNCAG | TCCTTACAAC | CCTACCCGTT | ATGATTTTNG | 780 |
| | NAATTCCCTAC | CCTCCNGCAT | TTAGTTGTTC | NNNATACCTT | TNGNCCCGG | GGNGGACTTA | 840 |
| | TCAN | | | | | | |

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1343UP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCGATTAA | AGGAAGCATC | TGCTTCCCCT | CATATCATAT | AACATTGTAC | CCGGGGCTGA | 60 |
| 5 | GCGGGACCAG | TAGCGAATTT | GATAGCAGTG | TTCTCCACGT | CCCCGCTCCA | CTGTGAGCTC | 120 |
| | CTTAAAGTAT | ACCGGCTTCA | TACACCAGTG | CCCACAATGA | TGCGTACTTG | ACTTGTAAATC | 180 |
| | GAGAGCATTG | GGCTTATACT | GTGATTACGA | TGAATGTAGC | CAAGAGAGAA | AAGGTTTCATT | 240 |
| | CACGATATAC | AGTACTCACA | TTCATGGCAT | GCCATCCCCA | AATTCCAATA | CAGCCATTAG | 300 |
| | CACCAATGTA | GCGCTACTAA | TCCGGCGAGC | TTAATTGGCG | TCAGTTCAGA | GTGAATCTCG | 360 |
| | AGCTTAAAAG | TCAGATTGAT | TAAGTAAGAA | AATGACGATC | AACAGGGTGC | TCAAAATAGT | 420 |
| 10 | TGATTACCAG | ATTCCGGGCGT | GTGGTCTAGT | GGTATGATTC | TCGCTTTGGG | TAAGCGAAGT | 480 |
| | TGCGGGTTCAC | TGcGGcTTAA | CTACTAAACA | TGTGAGAGGc | CCTGGGTTCa | ATTcCCAGcT | 540 |
| | cGCCCCAAAT | TTTTtGCTCT | CGCCTCCCCG | GGGAAAGGTG | AATATCATTt | TACAAGTAGT | 600 |
| | TAACTCCTCC | CACGTTACGT | CCTTCTGCAG | ACAAAGTTGCA | GCGGTTTACA | ATGCTCAGGC | 660 |
| | TATTTTGCGG | CTTCAA | | | | | |

1344RP

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|----|-------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCCTTGCG | TACTAAGAGT | TAGACTTTAA | TTAATAATAT | TATTTGTAGA | AGATAGAAAC | 60 |
| | CATACTGACT | CACGTCGTAT | TTAACCCCAAC | TCACGTAACC | TTTTAATTGA | CGAACAGTCA | 120 |
| 20 | AACCCCTACTT | AGCTGTTACA | ACCAAGAGGA | TAGGTTGAGT | CGACATCGAG | GTGGCAAACA | 180 |
| | TAACCTTACAA | TAGCTACTCT | ATCGTTATAT | TACCCTGTTC | AATTTTGTTA | TCATAATAAC | 240 |
| | ATTTAATTAT | TATTTCAATA | ATTCTCATTA | TTGTTTCAGAC | TATTTTCAATA | TGTATTATTt | 300 |
| | ATTAATTAAT | ACATATTGGG | CTTTCGTGGA | TATAATTATT | GTAAATCCTA | CTCATATATC | 360 |
| | TAGTCGTTGA | ACGTTCTTAT | AACTTTATAA | AAAGGATTGT | TATAAGCTTC | GCTGCAGATT | 420 |
| | GTCCTTTATT | ATTATAAAAT | AAATTTAGGA | GTTCTTTGCA | ATTAACCCAA | TTTACTCAAT | 480 |
| | ATATTTAAAT | ATTGATAATT | AAATTTTACA | ATTTAATGGG | ACTATTAATT | AATCCCTAGC | 540 |
| 25 | GTAACCTTTA | TTCGTTTATC | AAATACCATT | ACAATATGTT | ATATTTGTTC | ATTATGCCAA | 600 |
| | ACTTACGTTA | TTGTNCTACT | TGTAGTATTA | CNATTATAGC | ACAGTTACCC | CATCATATTT | 660 |
| | ATTTAATANA | TACCCCAANT | AGNTTTTTTT | ANCATAAAAA | GGANCTAATT | TCCCTTTTTT | 720 |
| | CNCCAANTCC | NNCTCTCTCA | ATATNTTTAA | AAATTTTAAA | CNNAANTAAG | AAACCCNNNN | 780 |
| | TNAACCNCAN | CTTTTTTTCAN | GGCTTTTCNAN | CCTNTTNAAT | ANCCCCN | | |

1344UP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCCTTATA | AAATGGGCAA | TAGACGTGTT | ATAATATAAT | ATACAAAATT | ATAAATAAAT | 60 |
| | ATTTAATAAAA | ATATAAAATT | AATAATTAAA | GTATTATAAT | AATTAATAAA | ATTATTATTT | 120 |
| 35 | AATAAGTATG | GATTTTAAAC | TGAAATTTGT | TAAAATGAAA | TAAGAATTGC | TAGTAATCTA | 180 |
| | TTAATAAGAA | AGTAATGGTG | AATACTCTAA | CTGTTTCGCA | CTAATCACTC | ATCACCAGTT | 240 |
| | GAAACATATA | ATTAAATAAA | GAATATTAAAT | TAATTTATTA | ATTATTAAAT | ATTATTAAAT | 300 |
| | TTATTTAATA | AAATAATAAA | ATATTTTAAAT | TTAAATTATG | AATTAATGCG | AAGTTGAAAT | 360 |
| | ACAGTTACTG | TAGGGGAACC | TGCAGTGGGC | TTATAAATAT | CTTTAAATATT | CCATTTTAT | 420 |
| | ACAAATAAAT | ATATTTTTTA | ATATATTTTA | TAATAACTAT | AATTAAATAG | TTAAAATTTA | 480 |
| 40 | AATTATAAAT | TAATAATTTA | ATAACTTATT | AATTAGAGAG | TTAGGGTACA | TCCCCCTAA | 540 |
| | TGCTATGCAT | TATGGTTGGT | ACCACTCTAA | TTAATAAACT | ATAATAAATA | AATACTAATA | 600 |
| | TTTTATATCA | ATTAAATTAT | AATTATTTTT | TATTAATATT | TTAATATTAT | TTAATGAAAT | 660 |
| | ATATAAATAA | AGTATTATAA | TTTAATAAAT | AAATAAGAAA | TGAAGANAAC | GACTCTCANA | 720 |
| | ATTAAATTGC | ATTNATAGTT | TACCATTAAA | CAACATTCCC | TTATTCATAT | TATTTNATCN | 780 |
| | ANTAATTAAAT | ATCTTATTAT | TNATTAGAAG | GANAGGNTNC | CNCCCCTAAT | GCTNNGCATC | 840 |
| 45 | TTGTGGTACC | NCNNATTAAA | AAGTTTACAT | NA | | | |

1345RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCCAACG | TCTGATTATG | TGTGTGAATG | CTGTTCTCCT | GCTCCTCCTG | AGTCTCCTTA | 60 |
| 50 | GCCTTGCCCT | TGTACACTTT | GCCGTATGTT | CCTGCTGCAA | TATAGCCGAT | GATTCGTAC | 120 |
| | TTCTCCAGCA | CTGACACCTT | ACCGGCGTCT | TTCCGCTGCG | GATATGGCCC | TATCGAGAAC | 180 |
| | ACATTGTTAT | TCGCCATTAG | CATCGGCGAT | TTGGACGTGC | TGGCGCTGCC | TTTGGTATCG | 240 |
| | AGAAGCTGCT | GTTGCTGTTG | CTGCGACCAC | AGGCTCCGGG | TGGATGCCCTG | GTTGGATACG | 300 |
| | TTGAAATACT | TATTTCTGTTG | TGTTTGATGC | TGATTATTCA | TACTATCGGA | GGACTGTAAA | 360 |
| | CGTATCCCCA | TAAAATAGAG | AGCTCGAGCT | ACCACCTGAC | GACTTGTGTT | ATTGTAGTGT | 420 |
| 55 | TTAAATGGAT | ATCGGCTATG | TTCTAAGCTC | GTTTTTAAGT | GTAAAACATT | GCAAAATCCAT | 480 |

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|------------|-------------|-------------|-------------|------------|------------|-----|
| ATGCACACAG | CTCATCCGGT | TCTACCGACA | ACCCCTCTTGC | GACCGGAGCG | GTGGAGCTGG | 540 |
| GGTGGATAGT | TCCCGAGCCC | CTATGTAGTA | TATACAGCGT | GCCACGGCTG | CGCCTGCGCG | 600 |
| GCTGCAGGGC | CTCAGCACGA | NTGCCCTTTC | CNCCACTGCT | TTATCCTCCT | GAAAGCCGTA | 660 |
| CAACCNCCGG | NNAAATAACGG | GGCACCCAAA | GCNCGCCGAN | GCCCCCGGAT | AANAACMTGA | 720 |
| CCAGCCNTAG | NGAGGCCCGG | AAANAACANT | GCCCTTTTTC | AGCGGGCCGT | CGCACAAACC | 780 |
| CCAAGGNGGN | TCCCNNTTGG | GNNTTTTAAAT | NGCCNNGGGG | ANGCCCCNTT | NCTCT | |

1345UP

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|------------|-------------|------------|------------|-------------|------------|-----|
| GATCCGGCGT | CAGCGCAAGC | CAGTCTACTG | GGGGACGGAG | ACGCGCACAG | CATTGGCGGA | 60 |
| GGGAGAGCTG | GAATATCGCG | ATGACCACAT | TTCGAAGGCA | GCTTACGTTT | ACTTTCCGCT | 120 |
| AACGGAGGGC | GCGAGCGCCA | CGCTACGCGA | GCGCCTGGGC | ACGTCCCTCC | CAGAACAGCC | 180 |
| CATCGTGTGT | CTCATCTGGA | CGAGTACACC | GTGGACTCTG | CTGTCAAACA | GAGCCATCTG | 240 |
| TTTCCACGAT | GACCACGCGT | ACCTGCTTCT | GCAATGGAAG | GGTATGCTGG | TGGTAGCCGA | 300 |
| GAGAACTGAA | CTAGCTGACT | TTAAATGGAG | TGGTGACACG | CCGGTGGTGG | TCACCTCATT | 360 |
| CCGCGGTTC | GACCTCCGCG | GGCTCTATTA | TACCAATCCA | CTTCTTGGGG | ACGCCGTTAG | 420 |
| TAGGCCGCTG | CTGCATGGAG | ACCATGTCAC | CGCCGACACA | GGTACTGGTC | TGGTACATAC | 480 |
| TGCGCCAGGG | CACGGCCAGG | AAGACTACCT | AGTAGGTCAG | GCGCACGGCA | TTGAAGTCTA | 540 |
| CTCGCCAGTC | GACCATGAGG | GGAGGTATAT | TCTGGATGAT | ATTCTCTCCAC | ACCTCCGTGA | 600 |
| TATGCTAAGA | GAAGAGAGCG | GTAAGCCGCT | GAAGGTTACA | GACCACAAAG | ANTGCNGGNT | 660 |
| CTTCATCAGT | TTGCTANAAA | AACCCAAGAT | GCTCCTGCAT | TCCCTGAATA | CCACNCTCNT | 720 |
| NTCCCTNCAA | TGGAGTCNAA | NAACNTGTTT | TCNAGANCTA | CCCNCCGNTN | GTTGCNAACT | 780 |
| GATGGACTGA | ACTTCCCCCN | GGAAACCTGA | ACACTTTATT | TTTCCCTNCC | AGGGGAAAAA | 840 |
| NCGNTCAAGG | TTCTCNAAAAN | CGA | | | | |

1347RP

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|-------------|-------------|-------------|------------|------------|------------|-----|
| GATCATCATG | CCAGCGCCCCA | TGCCGCCGGC | GGCACACCTT | CACACCCACC | CGTAACTGAC | 60 |
| AATACTCGAG | CACCTTCGTG | CGCTGGCCCCG | CTGGCGGCTG | CCTGGCCCAT | TATGCAACCA | 120 |
| CCCACACGTT | TTATTCCTACT | TAAAAATTAC | TTAAGCTGAC | GTTACGCCTG | TTGAAAAATT | 180 |
| TTCCGCTTCAC | GGAAATTTTTC | TGGGTGAGAT | ATAAAAGGGG | CTAAGTTGCA | CAGTGAAAAG | 240 |
| GTGAAGTTTT | TTGTGTTTAG | ACTTCTTTTA | TGACCTCATA | GAAGGAATTT | GGGAAATCTG | 300 |
| ACTTTCTAGC | AGCCTCTCTC | CAGTTGGAAG | TGPTTACATA | CTACTGCTAA | ACGTGCGCTA | 360 |
| AGTTAAGATT | TTCTTTTCTT | TAGTTTTTAAA | CTCAGTACCT | TATTCCATAA | AGCGACACTA | 420 |
| CGATGTCTTC | TAGATTCTCC | CTCGTCTCGA | ACCTAACGAG | ATCCTTGAGC | TCTGTGGGGC | 480 |
| GGATGCCAACA | GATGCGGTTT | CGATCGTCTG | AGTCGATGAC | TGTGCGGGAT | GCGTTGAACA | 540 |
| GTGCGATGGC | CGAAGAGATG | GACCCGTGAT | GACGATGTGT | TCATCATCGG | AGAGAAGTTG | 600 |
| GCGCCAGTAC | AACGGTGCCG | TTACAAGTCA | CCCAAGGCTT | GTTTGACCGT | TCCGGNAACG | 660 |
| CGGTTNGTNG | ANACCCATCA | CCGAAANGTT | TTTGCCGTCT | TGCGTGCGTN | CNCTGAAGG | 720 |
| CNTGACCCTA | TGTCATTTCAN | TNGTTCACTC | TCCAGCAGCA | NGACANTTCT | GAATCCGCGC | 780 |
| CAAATACANN | TTCTGTGTGT | CNACCNTCAN | TGTTTCCAGC | NAAGNGCGNC | NOGNNC | |

1347UP

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|-------------|------------|-------------|-------------|------------|------------|-----|
| GATCCTACAG | AACTCAACTC | TTATATCCAG | GACTCAGTCA | CGGCGTCTGC | AATCCGCAGC | 60 |
| AGCCACGCGT | GCTCCAGGCT | GGGTGGCCAT | TGGATGGGTG | GGCACGACCC | GAGTGGGCAT | 120 |
| GTATTCCCTGA | TAACGTAAAT | GTGTATGTTT | ATGCTGGGCG | AGCTGCAGGT | ATTTGGCCGC | 180 |
| CGCGCAATCG | GGAAGCTTTC | TGCTGATTGT | CAACAGCTGC | AGGGCGCTCC | TGGTAAAATT | 240 |
| GTGGCACGCA | TTTTGCAAGC | AAGTCCGATT | AGAGAGCTAA | TTAACTCTGA | AGCCCCCACA | 300 |
| CATATTTTAA | GACGCCTTTT | CGTTCAACTG | CCACTAGAGA | GTCTTGCGAT | TCTGGTGAGC | 360 |
| GCGGTTGTTT | TTGGCTTTTC | GTTCAATTGT | CTGGAATAAC | CGATTCTATT | GCTTGTCGGT | 420 |
| CTTATCTGA | CATGGACCTG | GTCACCTCTG | GTAACCTATAC | TCTCTTTCCA | TTCTGTTGCG | 480 |
| GAGCATTTGA | CCGGTTTGCT | CTTCCCATAC | CTTCTAGTTT | TGGCGTTATA | CTGGTACATA | 540 |
| TAATGATCTA | AGTAAATCT | GCAATATTAC | ACACGAACGT | TAAACTCGCC | AGCTGGATAT | 600 |
| AGGCAAAGAT | TGCAGATGCT | GTGCTTTCCG | CCTAATATGC | GGAAAGATGA | GCAGGCCAAA | 660 |
| CCCAATGCAG | AGTAGGTTCC | TCATATAGTA | ACCATCGCGC | AGAATGACAA | CTTCCGCCCG | 720 |
| CTTTGGAAGC | ACTCCCTCC | GGAAAGGAACA | TCCNATGGGC | GAATTTTGGC | CACCTTANAA | 780 |
| TTNAANAAAC | TATCATCGCC | ATAATACATC | CGANACAATT | ACCCCANAA | TATCAAGTAT | 840 |
| CNGAAATTTT | CNTTANTTCN | CCAATACGN | | | | |

1349RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTTATA | TATCAGTCTC | TTGCTATAGA | TTACTATAGA | CCCCACCACT | AATGTACAAG | 60 |
| 5 | TTATAACTAC | TGGTAACACG | TTATATAACA | GGTAGGAAAC | GGGGCCGCCG | GGGATTTTTC | 120 |
| | CCTATGGCTT | GGCCAGGTAG | CAACTGCTAT | AAAGGCGGAC | GTTTCTCCCG | GAGCTTTTTC | 180 |
| | ATCTTGGCGA | GTTTCACTTG | CTAGTTAGTT | TAGGGCTAGG | TCGACAAACA | TATTCCACAT | 240 |
| | CGTTTTAATG | GCTGGGTGAC | CTGATAACGT | CAAGGGCGTG | GTTGAGCTGG | ACCCCTGGTT | 300 |
| | AGCTCCTTAC | GGGGACATCC | TCTCTGCGAG | ACGGTTCCTT | GCCGACAACT | GGAGGCACGA | 360 |
| | TATCGAACAT | GCGGTGCCCG | GCGGGCGGCG | CAGTCTAGTT | GAGTTTGCGC | GCGACGCATA | 420 |
| 10 | CAAGAGCTAC | GGGCTGCACG | CGGACCGCGA | GAGCAAAAGC | ATAACGTACA | GGGAGTGGGC | 480 |
| | GCCCAATGCA | ACCCGGGCGT | TTCTAGTCGG | CGACTTCAAC | GGGTGGATGA | GACCTCGCAC | 540 |
| | GAGCTCCAGA | ACAAGGACGA | GTTCCGGTGT | TCACGGTGTG | TTCGGACCTG | GGCGACGGC | 600 |
| | GAATTCATAA | TCCGCTACT | CACCTTTTAA | GTTGTGTTCN | AACCTGCCAC | CGGANCCCCA | 660 |
| | TACCCGGTTG | CCACNTTGAT | TCAAAGGNAC | CCACCCACC | AGAANCCCAA | GATTTGGGCC | 720 |
| | NCCTTACAAG | CCGTCTGAC | CCNCCCCCT | ACATTCCACA | CAAAGCCCCC | NGACCAACTG | 780 |
| 15 | ATNCCTNAAA | NNACAGNCNC | TTGCTCTCAC | CCGACCCGTT | TGT | | |

1349UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCGCGAAA | ACTAACGCAC | CAAACCCGAC | GGAAGCCAGA | GCTCTCTTGT | AAAGTGGCAA | 60 |
| 20 | GATAGTGTAT | GTCTGGCCGG | ATGGCTCAGA | GGATTTCTTG | CGAGCATAGT | GGCAGCGATT | 120 |
| | GACATATGGA | GTTATCATTT | CAAAAGCAGT | GGCAATAGCA | AGACCGGTTT | TGTTCCAAAC | 180 |
| | GCCGTTTCTT | TCTTTCATTA | TTGGCCACAA | GGGATTGTTC | GAGTAGAAGG | CCATCTTCAA | 240 |
| | CACAAACGCTC | GCAACAAGGC | CTAGAGACCA | AGTAATGGCA | AACTGCGCGA | CACGCGCGTT | 300 |
| | GTCCTTTCACA | ATGCTCTTCA | AGGTCACTGC | AAAGTTCATC | GTGCTGAGAC | CCGTGGCAAC | 360 |
| | CGCAACCGTC | ATCAACCTCC | ACTCCGGTTT | CTCAACTATG | TACGCTCCGA | TACCGATTAC | 420 |
| 25 | ATTAGCAAGT | AAAGGGCCGT | ACTGTTGAAT | CAACGTTGGG | AAAAATGGAA | CATAAAGCAG | 480 |
| | AACTGGGCTC | AATACCGCCG | CTATCACCCG | CCTCATAGCC | GGAGATACCC | ATGTACCAGA | 540 |
| | GCGGGAAAAA | CCATATCATA | CACAATAGGG | CAGTCAAGTT | CGTCCAGAAC | ATAAACGAGT | 600 |
| | CAAAGGTACT | GACAACAATG | TAAAACAGAC | TTGCCCTGATT | GGTGATGGGC | TGCTCCGGCA | 660 |
| | GGTAAACGAG | TTCTCGTGCT | CCTGCGTGAT | AATCACCTCC | TCCAGCATT | TCCCTCCATTG | 720 |
| | CGCCGCCGCC | GAGTCCCTTG | CCGGGCTAGA | NAGCNGGTG | CTTGCTTTTG | ANTGCACAAC | 780 |
| 30 | CCCCNCGAAG | GCCTGTGCCC | TGGGTTGCCN | AACCTTNCCT | NAGTCTCTCC | AGTTTGCNTT | 840 |
| | ACTTACCCTC | CNAAAAATTC | CAAATATCCN | GGACNCCCN | | | |

1350RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| 35 | GATCTCTTGC | AATTCCTGCT | CGGTCTCTCT | GTGATCTCTA | TTGATCACCT | TTTCGAGTTT | 60 |
| | GGTCGCCTGA | GAAAGCGTCG | CAAAGTTGTT | CATAAGTTTC | TTATACCGTG | CCAGTTTTCG | 120 |
| | AGCCAGCACA | TCGTGCTGTA | TCGTGTGGAG | CGCAATTGGA | TCCCCATCGG | CGGCCATGTT | 180 |
| | ATCCTTGACC | GCGATATTGC | GTGTTGATGA | AGTCTGAACG | GCCTCGTGGC | CTGGACGTAA | 240 |
| | GGCGAAAAAG | TAAAAATTAT | TAGAACAGGC | ATGAGATTGG | CTGGAAGTTC | AGGGAGCCAG | 300 |
| | GCCTCGTGCG | AAGCAGCTTA | GAGAGCCATA | GGAAGCCACA | TGCGCAGGAA | CTAGAGATGA | 360 |
| 40 | GACCCACCCA | AGGTGAATCT | GCCCCAGGCA | CAGGGGCGAGT | CTTAGCAACG | TGGTAAACAT | 420 |
| | TAAAAATAAT | ACATACGTTA | CAAGCAGCCG | GCATAGCAAC | TGCCTGGAGT | CATGTTTTAG | 480 |
| | AGAAAAATAG | AAAAATTATT | ATAATATTCC | TTGTGTATGA | AATAAAGCTG | CTTTGCAACA | 540 |
| | CGCGGCAGAG | ATTGAGACCT | GCCTGAAGCC | GTAAGAGGAC | GAAAAACCGA | ACGAATAGAA | 600 |
| | TTAAGATAGA | AAAGCAGCAC | TCCGCCAAGG | CGAAGCGGGG | CGCGCAAGCC | GCCCCGCGCTT | 660 |
| | TCCCTCNCNC | TCAGCTGCAA | ATGCTCCTCA | GTGGATCCTG | CTCCCCCTGT | CCCCGTCTCA | 720 |
| 45 | CCTCCTCCAC | TCCTCGTCNT | ATCCTTTTGA | TGAAACNAGG | CTGACGCGCG | TGTTCACTCC | 780 |
| | ATCTTCNCNC | GCNCCGCTCG | ATAAATTGCT | CAGCNCCTACC | TCTTGGNNG | | |

1350UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| 50 | GATCCGCATT | AAGCGCGACG | ACGAAATCAA | TACCAAGAAG | CTCGACGAGG | AGAAGGAGCG | 60 |
| | GCGCCTCAAC | GCCATCATCA | ACGGGGGAGC | TAGTCATATA | AGCGTGACATA | TAGCGCAATT | 120 |
| | AAAGGTTTAG | CGTCATCGAT | AGTTACATAA | AGTTAGAATG | CATGCTCCGC | CACGCGCGCG | 180 |
| | TTGCACTCGG | CGAGCCACCG | CGAAAGCGCG | TCCTGCGCCG | CGGGTACGAA | GAACCGCCCG | 240 |
| | AAGAAGTGGG | GTTCCTCCGC | CCACCGGTCG | TAGAGGTCTT | GGCTGAGTAC | GTTGTACTTG | 300 |
| 55 | ATCGGGTCCG | CCTTGAGAT | GGCATTTCATG | AGCCACTGTG | TCTCGTGCAA | CGAATGCGTC | 360 |

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|---|------------|------------|------------|------------|-------------|------------|-----|
| | GGCGCGCTGC | TGTGCGACTT | CATCATCGAC | AATTCGCGGA | ACGGCTCGAA | CCGCGTGATA | 420 |
| | AGCGCAAGCA | AGCAGAGCCC | CGCAGCGTAC | ACGTCCGTGC | TGTGCGTCGG | CTGGCCGCGG | 480 |
| | CCGATCAAGC | CCGGCGCGCA | GTAACAAGC | GTCGTCTGTA | GCGGCTCCGG | CGCCGCGTCG | 540 |
| 5 | CACACTGCGG | CCGACGTGAA | GTCGCGCAAG | AATGCTCCTG | CCCGCGCACG | AGCACGTTCT | 600 |
| | CGGTCTTGAT | GTCCCGGTGC | ACCACGCAGC | TCTCGCGAAG | GAACCTGGAGC | GCCCCAACAA | 660 |
| | GGTCAAGTGC | GTACCGCCAC | CACTGGCCCT | TGTCNCGGGC | GCGCGCCGGT | GCNCCGCTTC | 720 |
| | CANGTGGGGT | TCAACCGCTC | TACACAAAGC | CGGGACCACC | TCGCCACCGC | GAANCGGCGG | 780 |
| | GTATCCCNAC | GTTTNCGGCC | GCNCCCCCGN | GGAANGGACC | ACTTNCGGTC | NCGANCCNCC | 840 |
| | CCCGCCNGGT | GGCAAGNGGG | AATTNTTTAC | CNTCT | | | |

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1351RP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCATAATG | ATTTGTCTTA | ATTCTTTTCT | TAATTATTCA | TTAAATAATT | AATTAATATT | 60 |
| 5 | TTATTAATAA | AAAATATTTA | GAGTTATGTT | CGTTTATGAT | AAATTCTAAA | ACTTTGCAGC | 120 |
| | ACGAACTGAA | GACAACTATG | TAACGCCTGT | AATTAATTAT | AAATTATTAT | AATTAATATAT | 180 |
| | TCAAAAAATG | GTAAGATTTA | TCGAGGATTA | TCGAATTAAA | TAACATGTTT | CACTGCTTAA | 240 |
| | GTCTGTAACC | GTCTATTGTT | TTGATTTTTA | TTATTGCTAA | CGTAGTCATC | AGGCGGAATA | 300 |
| | CTTTAATTTT | CATTTAATTT | ATTCTTTAAT | TAATAAAAAA | TAAATAGGTA | TTCATGTGTT | 360 |
| | ACTGCTAAAA | CTACTCGGGT | ATCGAATCCG | ATTTGCTACT | TTAGCCCTCG | TTCCCTCAATG | 420 |
| | TCAATTAATA | TATAATTTAA | ATTTTCACCT | TATAAGTCTT | ATTCATATAA | TTATTTATTC | 480 |
| 10 | ATCTTTACTT | GAATAATTCT | TAAATTATTT | TTATTAATTC | TAATTATTAT | TTTAAATAAT | 540 |
| | CATCTACGAA | CCCTTTAAGC | CATTACGAAT | AACGCTAACC | CCTTTGTCTT | ACCGCAGCTG | 600 |
| | CTGGCACAAT | TTTGGTTGGA | NNGANTTAAT | TATATATCTC | TTTTAAAAAT | ANAATCTCCC | 660 |
| | TCATATTAAT | AATTTTATAT | TGANANTAAAT | TATCNNATTT | TAATAATTAT | TGAATTTATT | 720 |
| | GTTACCCANA | NTAANAANAN | ATTATTATTT | ACATCCCNNA | GTACNGANCA | CTTCACATTG | 780 |
| 15 | CCAAATCCCN | CGCGTTCCNA | NAAATGATAT | ATTCTNANCAC | GGATNTCTTC | TT | |

1351UP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCATTATA | TTATAAAAATA | TAATAAAGAA | TATATTTAAA | TAATAATAAT | AATATGAAAT | 60 |
| 20 | ATTATATTAA | TTCTCCATTG | GAGCAATTTG | AGATTAGAGA | TTTATTAGGT | TTAACATCAC | 120 |
| | CAATAATAGA | TTTTAGTTTT | ATTAATATTA | CTAATTTTGG | TTTATATCTT | ATAATTCCTT | 180 |
| | TATTAGTAAT | TTTACTAATG | AATTTAATAA | CTAATAATTA | TAATAAATTA | GTAGGTTCTA | 240 |
| | ATTGATATTT | AAGTCAAGAA | ATAATTATG | ATACTATTAT | AAATATAGTT | AAGACACAGA | 300 |
| | TTGGTGGTAA | AGTATGAGGT | TATTATTTTC | CATTAGTTTA | TACATTTTTC | ATTCTTATTT | 360 |
| | TTACTATAAA | TTTAATTAGT | ATAATTCCTT | ATTCAATTTG | TATAACTTCA | CATGTAGTAT | 420 |
| | TTGTAGTATC | AATAAGTATA | ATTATTTGAT | TAGGTCTAAC | TATTTATGGT | TTTTATACTC | 480 |
| 25 | ATGCTTATTA | ATTCTTTGGT | TTATTTTAC | CACTAGGTAC | ACCATTAAAT | TTAGTACCAT | 540 |
| | TATTAGTATC | AATTGAATTA | TTATCATATT | TTGCTAGACT | TATTTTCATTA | GGTTTAAGAT | 600 |
| | TATCAGCTAA | TATTATAGCT | GGTCATTTAT | TAATGTTATT | TAGGTGGTTT | AATATTTAAT | 660 |
| | TTAATAGCTA | TAAATATTTT | AACATTTTAT | TAGTTTCTTA | CCCATGAATG | CNAATTTAGT | 720 |
| | ATGGTTGTTT | ANAATTGGCC | ACCCTANTAT | CCACCTAANT | TGAGGTTTTTC | TAAATCCCN | 780 |
| 30 | ATTTTAAAAA | TCCATTTTAT | TACATNNATT | AANAATAANA | TATTTAATAA | TATCCANNAT | 840 |
| | TNAANATTTT | ATAANTTTAA | AAN | | | | |

1352RP

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|----|------------|-------------|-------------|-------------|------------|------------|-----|
| 35 | GATCCTGCAT | CGTTTCGTCTG | GCCTGCAGGT | TGATTTTGT | GCTCTCAATT | TTATCCTTTA | 60 |
| | TCAAATTCAC | AACCTGGCAA | TCCACCTCAT | GCTTTATCTT | CAACGAATGC | CTCATCGTAT | 120 |
| | TGTTAAACCT | GAGGACCATC | TCCACCTTCC | GTTTAAACAAG | CTCGACGGTA | TCCTGTGTCA | 180 |
| | ACAGGTTTAT | GGCTGGGTCTG | TCGACCCCCA | ATTGGGCATC | CCAGGCAGTT | ACGTGATCTA | 240 |
| | TGTTGTCTCT | GGTGTTCGGA | GAGAAGCGAT | ATGTAACCGA | CTGCATGTTA | AGAAGGCCGT | 300 |
| | AGGGCGAGTC | CTGCTCCCGC | ACGTCCGCGT | CGAGCAACTC | GCTGGTGTG | ATGTTGATGG | 360 |
| | CGTCTCACAC | CAAATCGCTC | AACAGCGAAA | GCTGCTTGAA | GGGGAAGCGC | ACGTGGTGGA | 420 |
| 40 | ACAGCGACCG | TGCGTCTCTG | CCCGAGCGGC | TCGCGCGGCG | GAACGGGTTG | TGCTCGTCTG | 480 |
| | CGGACAAGTT | CGGGCAGCTC | AGGGACGGAT | GGAGCATCAC | GGGCGCCTGC | TTCCGAGGGC | 540 |
| | CCAGGTCTGT | AGGGTCCGGC | TGCGGCAACG | CGAGACCTTG | TACTCCGCGC | CCGCGCCGGG | 600 |
| | CTGGCCGAGC | GCCCCNGTCA | GTCTTCTACA | CCNCTTGACT | CCCCCACTC | CTCCGTNGAT | 660 |
| | GACTGNCCGC | GCTCTNCATC | CGGTGCTCGC | ACACNCACAT | CTCCGAATGN | TTTCCACCAC | 720 |
| 45 | CACCCNGNAC | AACTTTCCAC | ACCCGGA AAC | TCNNTNGNNT | TTNGGACCCT | GTCTTTACNC | 780 |
| | TCCAATCCCN | TCTGCTGCAT | TTTTGNAAAA | CTCCCCCACA | CCCACCCCTC | N | |

1353RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCTAACTA | TTAATGTGTT | CCTTGAAATT | GTGCTGAAAT | ATAACGAGCT | CTTAAATGAT | 60 |
| | GTCTATCTTG | ATGACGATGT | CGTCAAGTTG | AGCCAAATGG | TACTTCAAAC | GTGTAATGAA | 120 |
| | TAAAAATATA | CAAGCGCAAA | GCCCAATAAC | CTTTACCCTA | TATATCTTGT | AATATATTAA | 180 |
| | GTTAATTGAA | CCATTTACGT | GCCATATTCT | GCGCTGGCAT | GGTATCCGTG | ATTTTATAAT | 240 |
| | ATATATTTCT | CGCAGGGGAA | GCAGAAACAC | TCAAGATCGG | CGATTGCCGA | TAAAAGAATT | 300 |
| | GCTCCCTGAT | TGATTGTTGT | TCGAAGGAGA | TGCAGATGGA | TTGTCCAGAA | AAACCGGTTT | 360 |

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|----|------------|------------|------------|------------|------------|------------|-----|
| | TAAGACTCGT | TCATCAAAC | TGTTAAACCA | TTGCCCATCG | GCTTGCAGTA | TATTGCCCAA | 420 |
| | GGTTTCGCGG | ATATTTCTTC | TGTCTAATGA | TAATCGTCCC | ACAGGCTGGT | CAGCGCCTGA | 480 |
| | TGCAGAGCGC | GAAGAGGGTC | GGTCTATCAT | AGGAGGAAAG | CTTTCTTGAT | CCGGGGAGCC | 540 |
| 5 | GGTCGGGCTG | TCGGCTAAAA | ATGGAGGTGC | GTCTAATGAA | GACATTAGCT | GGACAGGTCT | 600 |
| | AGGGGCTTCC | ATATCAAATT | CATCATCCGT | ATCCTCCTGT | TCTTCTACGC | ACCCTGTCCT | 660 |
| | TATGTTTAGA | TCTCCAGCAT | ACCGCAGTAT | ACCTCCCAAT | ATGATACGGT | GAGAACCCCA | 720 |
| | CTACCACCCA | GTGGCCNAAA | AGAACTTGAC | CCCCTGTNAC | CCTNCATGCA | TCCACNACCC | 780 |
| | CACCCCCCA | ATCNCNCTGT | ATGGTATGAC | CCTCAGANAN | CCNCCTCNGA | TC | |
| 10 | | | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1353UP

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|----|-------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCGGGCGCA | CTCTGTGGTT | CATGTCTCTGC | ACAAGTTGAC | CACTGTATAC | CAGTTTGACA | 60 |
| | TCAGAGGGCG | AAATCATCAG | TGTGTGGCCG | TACACAGAGC | AAATAAACTC | CTTTACTTCC | 120 |
| 5 | TGCACGGTGG | TGTCGACTGT | CACTTTCATA | GTCTTCATCG | CCAACACGGA | GTCCGAAACG | 180 |
| | AACTOGATAG | TTACACCATC | CCCGTCCCTGG | CCGTGGTTGG | TACGGAACAT | AATTAAGCAA | 240 |
| | TGCGAGAATG | GGGTGGGCGC | AAAGTCAAAG | CCCAATACCT | CCTGTAGGCT | CAACCCCGCG | 300 |
| | TGTTCTGCCG | CGTCTTCGGC | GCCCAGGTAC | ACAGGGGTAC | GATCGCCCTG | CAACTTGGAA | 360 |
| | TGCAAGCATG | TCGTTGGGCA | CATGGTTCTT | GTTTGAACAC | AGGTTCTTGC | AGCTGCTGCG | 420 |
| | CTCGTACTCG | TTCACTATAT | CACATGCCAT | CGTCCGCAGC | GCCAGCACAG | ACGTCTTCAG | 480 |
| 10 | AGGCACACGT | TGCCTTATCA | CCGCCACCAC | TTTATCCATG | GAAAGCGTGT | TGACCTGGAA | 540 |
| | CTTGACGTTT | ACATACGCAA | ACTCACTGTC | GCCATCGTAA | GCCAGGTCTA | CAGTGCCGCC | 600 |
| | TCCGACCTGC | TCCGCACATC | CAGCTCCAGA | TGGACCAACC | CCGCGCCGCA | GCTTGCAATC | 660 |
| | TCCTCGCACA | ACATGGTTCAG | ATTTCGAGCG | ACGCTGTTGG | TATTCAGACA | GTATTGCTCA | 720 |
| | GGCGGCCAAG | CGCCATGTTT | TCCCCTGATG | CATGATAACC | AA TGCCNTAC | TGCNATACCT | 780 |
| | NGCNACTGAT | AANTTGGGGG | ANGCCCGCCC | NTTACGAAG | AAGATCCANG | CTCCCNTTCA | 840 |
| 15 | AATAGNAANN | CNGANTGAAC | TGGCGNATNC | CNAATCT | | | |

1354UP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGAACAC | GCCTGTGCCA | GGGAGCTTAG | GGTCGTGTGC | ATCCAATTGA | GATCGAAGCA | 60 |
| 20 | AAAACCGACC | ATGCTTGTGT | AACCGAAAGG | CGGATGTAGC | ATGGCCCTTT | CCCAACGGTT | 120 |
| | GAGATCTTGG | TTGCGCCCTC | TTACCCCTGT | CGTAAATTCT | CGCAAAGTCA | GCCTGGTCCG | 180 |
| | TCGTCAAGAG | CGCCTCAAGG | GCA TGGCCCA | GCTGCGCAG | AATGATCTCG | CGGTCTGCAG | 240 |
| | AAGAGTCTGA | GCTCAAGCTG | AAAATGGGGG | GGGCCTGCGA | CCGCGCTGCG | AGCAGCATTG | 300 |
| | ACGACGTCAT | CTTGCAGCAC | TTGCTCACCT | GGGCGTCTTT | CCGCAGCAGC | GTGCGAGACA | 360 |
| | GGTGCCGACC | ATTCAGAGGC | CGGAAGTTGG | ATAGCAGATA | ATGCAGGTGC | GACAGCACAC | 420 |
| 25 | CAGACATCGC | ACTGGTTGAC | GATACATACC | GTGCTTGCCC | TTCTTTGGCG | CGCTCCAGCA | 480 |
| | GTGCGAGGTC | CCGCGAGGGC | GGCACGAAAT | CTGCGATGGC | CTCAAATCGA | AGTCTTCGAC | 540 |
| | CTTGATCACC | CGCTCGATGA | AGGGCTCGAA | GTTGTACACC | CCCGACCGCC | GGTCCCGGAG | 600 |
| | CGGCACCACC | GACAGCGGGC | TGGAACAGGC | AGCGTTCCAG | CCCGTGCGCC | AGCCGCGGCG | 660 |
| | GCAGCTCTGT | TGCACTGCTC | NTNCCACCCC | ATTGCTGAAC | GCCCCNTGAT | TACAAATTGT | 720 |
| | TCNCTCTCCG | GCCCCGCTTG | CCCCGGTTGC | CCCTCCCNCG | CGCGGCACCC | CCGCNCNNNT | 780 |
| 30 | GGATGANNGT | TCNCTGATTN | NCCAAACCCG | TTCANNTTGT | CCGGTTTNT | CANGGNCANT | 840 |
| | NCCCNNTCNT | TGTNCCNNTT | NAATGCCCN | N | | | |

1355RP

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|----|-------------|------------|------------|------------|-------------|-------------|------|
| 35 | GATCATGGCC | AAAAAATTGG | GAATAGGAAA | CTGTTTCCAG | TACTCATCAA | GGTCAGTAAA | 60 |
| | AATGTTTGCC | AGCAGTGAAG | ATTGCATCCT | TATCTTGCCA | TTTGCGGATA | GGACATTTGT | 120 |
| | TTGATATAC | CTGTGGTGAG | AGGAAAAGAG | TGTTGCCAGT | TGGGTAAAGT | CTCGTAAAAA | 180 |
| | CAAAATAAAT | TCTCTTCTGG | AAGTCTTACC | GTACGCGATT | CTATTCAAAA | TCCTCTCCAA | 240 |
| | GTCCTGGCCA | TCACGCAACA | TATTATTTAA | CGACTCAATG | AAGATATTAC | CAACTTCGGT | 300 |
| | TGAAATGCAC | TGAACTGCGT | CCAATCTCTG | TTGTATCTGA | TCAATATTTA | TTAAAGGCTT | 360 |
| 40 | TGCAATCCAG | TTCTTCAAGT | TCCTTAACCC | GTAGTTTGT | CTAGTATGAT | CTAATACCCA | 420 |
| | TAA CAGGGAG | CCTTTACTGC | TCCTATCTGT | ACTGTTCTCA | AAAATATCTA | AGCTTTCAAT | 480 |
| | AGCGCTAAGA | AGGAAGAATC | ATGTGCGTCT | tCGAGCAGAA | TGGTTTAAAG | TTTTCTCTGA | 540 |
| | AGAAGAGTAA | ACnnncATT | TTGAAGTTTG | TTAGGTAGCC | ATGCACCAGC | ATGAGCGCTG | 600 |
| | TTTGCAAGAG | AACGTTCGCC | TTAAAGGCTG | GGTGCGGCTC | ACTGAAGATT | TCTTCATACA | 660 |
| | ACCCGACGAG | CTCGATCCTA | TTTAGAGTGA | TATCGGAATC | TGAAGTATGA | AACACCTTTT | 720 |
| 45 | CGATTTCTGA | GCCAAGGCCA | TCTCCGACCA | CAACTTCACT | CGGGTTTGTG | TATTTTATTTC | 780 |
| | GCGTCTCCAA | AGCCTCCGTC | AGAAAAAGCT | CCTCTTTTGA | GTCAATCGAAG | ATAACTTCAC | 840 |
| | CGCTGTTGAG | ATTAACACTA | ACCAGGAAGT | ATCGCGTGT | TGAAGGTTGT | CGCTTGACCA | 900 |
| | CAAGACCCCA | CACAGAAGCG | CTATCACCCA | GGACCCGACG | ATCTTTGGTT | CGAACGTCTC | 960 |
| | ATTGATGCCA | TAGGTAGCCC | TCGTGAATAT | ATTGGGTACT | TCCCTCGAGA | AAACAGAGCT | 1020 |
| | TGAgGTCCCA | CTGTCTTTT | TCACTGCGGA | TGTCTCTGtC | TGtTcCACGA | CCCCACTTTT | 1080 |
| 50 | CAGATTGtGG | tGCATcAAGC | GCTGCAAGtG | GACTTcGAGA | CgGGTGTCTg | GGaATGGTGC | 1140 |
| | AgTACGCAAA | CTTcTTGtGC | tTGtGA | | | | |

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCATGCTA | TCAAGTGCAG | AGAACACGGA | TAGAGCCTAC | TCTGCAGGTT | CGGCCTCGCT | 60 |
| | GAGCGCGGCG | CAGAAGTCGA | AGAAGCCGCC | AAATACCGCC | TTCCGGCAGC | AGAGGCTGAA | 120 |
| 5 | GGCCTGGCAG | CCCATCCTGT | CGCCGCAGAG | CATCCTCCCA | CTGCTAATAT | TGCTGAGCGG | 180 |
| | GGCGTTTGCG | CCAATCGGGA | TTGCGCTGAT | CATCAGTGCA | AACAACGTGC | AGAACCCTGGT | 240 |
| | GATCGACTAC | AGCCAGTGCG | GCAAGCACGC | CACGTCCGAA | TACACGCCCA | TCCCCGAGAA | 300 |
| | CCTGGTGAGC | TACCACTTCC | GGACGTCCAT | GTCCGAACAG | CCTAAGTGGC | GGCTGCATTTC | 360 |
| | CAAGAATGAG | TGCGAGCTAG | AATTTGAGAT | CCCCAACGAC | ATATCGAGCT | CGGTGTACAT | 420 |
| | ATACTACAAG | CTGACGAACT | TCTACCAGAA | CCACCGCAAG | TACGTGCAGT | CCTTCGACCT | 480 |
| | CGACCAGCTT | AAGGGCAAGG | CTGTTGCACC | AGACAAGCTG | TCCGACACGT | GCCACCCGCT | 540 |
| 10 | CTCGACTAAG | GACGGCAAGG | CTGTCTATCC | CTGCGGCCTG | ATCGCCAACT | CAATGTTCAA | 600 |
| | CGACACCTTC | ACGCCGGTCC | TCCGGGGTGT | CCAACGGCGT | CCCCCGACTA | CAACTCAGCC | 660 |
| | AACAAGGAAC | ATCGCCTGGC | ACACNGACCG | CAACAGGTNN | CAAGAAGAAC | AAGCTACAAC | 720 |
| | CCGCCAGANA | TNGTGCCGCC | CCCCGCCTTG | GCACGAACGT | TTCCCCCNAA | TGGNTANNAC | 780 |
| | AANCCAACCT | GCCTGACTNN | CTACTTGCGA | GAATTTCCCG | TNTTGGANTG | NNCCCTGCAG | 840 |
| | NCTGCCNCCT | NNTAAANCTN | CNTNCAAAAA | AAAAGCAACN | CCCTCCC | | |

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|----|-----|-------------|------------|------------|-------------|------------|
| 20 | 1 | GATCATGCTA | TCAAGTGCAG | AGAACACGGA | TAGAGCCTAC | TCTGCAGGTT |
| | 51 | CGGCCTCGCT | GAGCGCGGCG | CAGAAGTCGA | AGAAGCCGCC | AAATACCGCC |
| | 101 | TTCCGGCAGC | AGAGGCTGAA | GGCCTGGCAG | CCCATCCTGT | CGCCGCAGAG |
| | 151 | CATCCTCCCA | CTGCTAATAT | TGCTGAGCGG | GGCGTTTGCG | CCAATCGGGA |
| 25 | 201 | TTGCGCTGAT | CATCAGTGCA | AACAACGTGC | AGAACCCTGGT | GATCGACTAC |
| | 251 | AGCCAGTGCG | GCAAGCACGC | CACGTCCGAA | TACACGCCCA | TCCCCGAGAA |
| | 301 | CCTGGTGAGC | TACCACTTCC | GGACGTCCAT | GTCCGAACAG | CCTAAGTGGC |
| | 351 | GGCTGCATTTC | CAAGAATGAG | TGCGAGCTAG | AATTTGAGAT | CCCCAACGAC |
| 30 | 401 | ATATCGAGCT | CGGTGTACAT | ATACTACAAG | CTGACGAACT | TCTACCAGAA |
| | 451 | CCACCGCAAG | TACGTGCAGT | CCTTCGACCT | CGACCAGCTT | AAGGGCAAGG |
| | 501 | CTGTTGCACC | AGACAAGCTG | TCCGACACGT | GCCACCCGCT | CTCGACTAAG |
| | 551 | GACGGCAAGG | CTGTCTATCC | CTGCGGCCTG | ATCGCCAACT | CAATGTTCAA |
| 35 | 601 | CGACACCTTC | ACGCCGGTCC | TCCGGGGTGT | CCAACGGCGT | CCCCCGACTA |
| | 651 | CAACTCAGCC | AACAAGGAAC | ATCGCCTGGC | ACACNGACCG | CAACAGGTNN |
| | 701 | CAAGAAGAAC | AAGCTACAAC | CCGCCAGANA | TNGTGCCGCC | CCCCGCCTTG |
| | 751 | GCACGAACGT | TTCCCCCNAA | TGGNTANNAC | AANCCAACCT | GCCTGACTNN |
| 40 | 801 | CTACTTGCGA | GAATTTCCCG | TNTTGGANTG | NNCCCTGCAG | NCTGCCNCCT |
| | 851 | NNTAAANCTN | CNTNCAAAAA | AAAAGCAACN | CCCTCCCN | |

1356RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTACATA | TGCATCAAAA | CATGTGCCTT | CATGCCGATC | AGTAGTTATG | TTTGCGCTGA | 60 |
| | GAGGCGAGCC | ATTTCCAGCT | TGTCTGCACA | ACTCCATATC | ATTTGCATCA | TCAAACCTCAT | 120 |
| 5 | TATCGCTATC | ACCATCCTTA | GTCGAGTATG | GAAAGGAGGG | TGACACAGCA | AGGCCAGAGG | 180 |
| | TATCAGTTGA | AGACATATCT | GTGCTCATGC | GGTGGGCGCG | ATCATAGTCC | GATGACTTCG | 240 |
| | TGGAGGATTT | AAAGTCATTC | TGCGGAGGAT | TCTGTGGCTC | TACTGACCTT | GCAGATTCGT | 300 |
| | TTTCACTTTC | GTACAGAATG | GACTCATCTT | CGAACTTGAG | ATCTATCCGT | TTGTGATCAT | 360 |
| | ACGCGACTCT | TTTTTCAACC | TTCTTTGTCT | TCATTGGCAC | GGAGTTTATC | AAGCTAGAGC | 420 |
| | CCAAGGAATG | CTGCTTATCA | AAGTTCTTCT | TAGCCATGGG | CATTTTCGTAT | CTATCATCTA | 480 |
| 10 | TCCCTTCGTT | CGAACCATAC | TTACCTGGT | AGCCATACTT | TGTATTATAA | TAAGAGTTGC | 540 |
| | GATAATGCTT | CGTACCAGAA | CTACCGGCAC | TGCTAGACTC | CAATATGGCT | TGGATGAGGA | 600 |
| | CTGCGCAOCG | GAAGTTTACT | GCCATCCATA | TCAATTTGGG | CNTGGCTGCC | ACATTCCGAA | 660 |
| | ANANTAAGAA | GAAGTACGAC | TAATCTCTCA | CTNGCTACCC | CGTCCNTAGC | AGCGAACCAG | 720 |
| | CTGCTGTCTN | NCNCATCCAC | CCCCGTGCTT | GCTTAGCTCC | TACNCCCNTG | TGGTTCCATA | 780 |
| | ACCCACCCCG | TGTCACCCCA | TCCCCTGANC | ATTNTGAGAG | ANN | | |
| 15 | | | | | | | |

1356UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGAACC | ATATTACCAA | AACCAAACAA | AGAATTCCGG | CCCAAGCGAC | CCGTCCGCGC | 60 |
| | GTAAAGCCCT | ATAACCAGCT | TACGCGTCTG | TGGGCGCCAT | AGAAATTTGC | ATTTTCAACG | 120 |
| 20 | GAACCAACAC | GTCAATCCCA | AACTACACTT | ATCATGCCCT | AAAAGGGATT | ATCTTTTCTA | 180 |
| | ACGAGGAGGC | CCGCCTGCGC | AGTAGGAAGC | GGATCTTAGC | GGCGTCCGGC | CGGCACATTC | 240 |
| | GGCCGTTGGA | CTGCAATATC | CTACTTCTGC | AGCGGAAGAT | AGCGCACGAA | AATCTGCGGC | 300 |
| | GGAGCAAGCT | CAGAATTATA | TGTAGGACCA | AACATTGTCA | GCAACGCCCT | CGCCGAGTTC | 360 |
| | TGTTATCGAG | TAGGGGGATT | TCCTGCGAAT | GCCGTTCCTT | TTTATCGTTT | CTTTTTCGAG | 420 |
| 25 | GGGCATCTGC | AGAAGCGATG | AGGTCCAAAG | CATCTTGTTC | CATCGATCAC | CGAGCCACAC | 480 |
| | GGGCAGGTAG | AGTAAAGCCT | AGTCACCATG | GTGGTAGTTG | ATAATAGCCG | CGGAGGCGCA | 540 |
| | TTCCGATACT | ACGCGGGTAA | GCTGCGAAAC | AAGGTAGCGA | CGCGGCGCGG | GCTTTTAGGC | 600 |
| | GACTACGACT | ACAAGTACCT | GTTACGCGCG | CAGATATTCA | AGCGCCAGAG | AAGCTTCAGC | 660 |
| | CATTTTCTCG | ATCNATGCAA | AATCCCCGGT | GGTGTCTGGG | TGGCNTTTGG | GGNTNCACNC | 720 |
| | CCCNNGCAAN | NCTGGCGGNT | TNNTTNCNCC | NCCAATNNTG | AATACCGGNG | GNGGGAANTT | 780 |
| 30 | TGAAAGNNAA | NCCNACATNC | TTATTGGGCT | TNCCNGNTGT | NGAACGGGGC | TTCNTNNAAG | 840 |
| | GNGNAATANN | CCCTTGNGAA | TCCTTAANAA | AAT | | | |

1357RP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| 35 | GATCCCAGCG | AGGACATCGA | AGAGGGACTA | CTGTACCGCA | TGGACAAGCT | TCGCTGCCGA | 60 |
| | TTGATGAGCG | AAGACCGAGA | TGAAATGACA | GATGGCGGGA | CCGTCCGGAG | CGTGATCTGG | 120 |
| | AAGGAAATGT | TTTCTGCCGT | CGGTATGGTG | TCCAGGCTCA | TGGTAGTACC | TGCATGATTC | 180 |
| | TGTCITTTCCG | TGATCGGCTT | CATGGTGGGC | GTTAGCGACT | TATAATAGTC | GGTGCCGGTT | 240 |
| | GCTGGCGCAA | CGAGCTGGCA | TGCAGTGTTC | TCCGACAAAT | AGGAGTACCG | GTGGGTGTTT | 300 |
| | TTATTTCGTGG | TGTTGTGAGA | AATGTTTGCA | AAGGAATAGA | AACCATTTTC | CATGGTGGTC | 360 |
| 40 | GAGGGGACTT | GCGAGTTCTG | TGCGGGTGTG | TGCGCGACAT | GACATTTTCAT | TTCTTGTTC | 420 |
| | GCGCCCGCTT | CCGCAGGAAA | ATGCGGCGCG | TGTGCCGCCA | TGTCTCTTTC | CTGCTTGTGT | 480 |
| | CCGTTCTGTG | CCATCTCCCC | TAGGGGCTTG | CCCTGAAGAG | TTTCAAAGCT | TTTGAAC TTC | 540 |
| | AAGGAGGGCG | ACGCCGGGCC | CACGAAACGA | TATCGCTTTA | CTCCTCCTCA | GCTTCCCGAT | 600 |
| | AGGCATCTCN | ATGCCATTTT | ATTAATATAT | TTCCCCCGTC | CGAACCCCAA | ATGTATGTCT | 660 |
| | CCCGTTGGC | AAGGGATTCC | GACTTATATA | TTATTGTATG | TCCACCACAG | GTTTCCNAAA | 720 |
| 45 | TATTATACAT | CNATTGCCNA | ACCTCCCCNT | TATNCATCAT | CCGACCNCNC | CNCATTGTGA | 780 |
| | CNCACTAACN | TGCACATNNC | CCNATNTNNT | AACCCATCAA | CNCACCTTNC | CTGCCCATCT | 840 |

1357UP

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|----|-------------|------------|-------------|-------------|-------------|-------------|-----|
| 50 | GATCCTCGCG | TTCCCATGCA | ATTGTGTTGC | TTCCGGTTGAC | CCGATATGAC | CTCAAAACCG | 60 |
| | GGTCCGAAGC | CACCAGCACC | TTGTCTGCTAT | GTGACTTAGC | CGGCTCAGAG | AGAGCAGTGA | 120 |
| | CACAGATAGT | ACGCCGGAAG | GAGGGTGCCT | TCATCAACAA | GTCAATTGCTA | GCGCTTGGAA | 180 |
| | CGGTCAATAGC | CAAACTTAGC | ATGTTGGGAA | CGCAGGCCAA | TGGCCTGCAG | CCGTCTCCCG | 240 |
| 55 | CAGCCGGCCA | CATACCGTAC | CGTGACTCAA | AGTTGACCCG | CATCCTTCAG | CCAGCATTTGA | 300 |

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|---|------------|-------------|------------|------------|------------|------------|-----|
| | CAGGAGACAG | TATCATTACG | ACCATCTGCA | CCATCGATTG | GAAAGCCGAG | TCCTCAACCG | 360 |
| | AAACGACCAA | TACCGTCCGC | TTCGGGTCTC | GCGCCAAGAA | TATCGCCCTC | AACGTGCGCA | 420 |
| | AGAATGAAAT | GGACTCGCAC | GCCGAGAAAG | ACACCATCAT | CCAGAACTTG | CGCAAGCAGC | 480 |
| 5 | TTGACGAGCA | GCAAGAGACC | ATTGTGATGC | TCCGGCGCAG | TGCTGCAGCG | CCTAGCGGCA | 540 |
| | ACGGCTCGAC | CAGCCCGCTG | GACAGCCCTG | GCGTCGGCGG | CACCCAGCTT | TGAGCGAGCG | 600 |
| | CACGCCACAA | CATTGAAAAA | AAGGNTTGCT | AAAGGTNGAA | AACAGCATCC | TCCAAGAAGA | 660 |
| | ANCTCCGAGC | CATTGCGAAA | AAGCNTCTCG | AAANNAGGAA | TGATGTCTTC | CGAAGAACCG | 720 |
| | CANITTCNCA | NATTCTTNA | ATCTCCCCCT | TGGAAATCCC | CCCGTCCCCC | CAAAACCAGG | 780 |
| | NTNCAGGGGT | TGATTTCNC | NGCCCCATTA | CCGNNTTACT | TTCAAAANTA | AATNCACNCC | 840 |
| | CCCAGGNCCN | NGAAAAATNCN | TTCCCCCCCN | TNTGGNGTTC | ACCGCCNA | | |

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1359RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCATGTT | TAATTCACCCC | GCTCACTCGC | GTAAACGATG | CTTTACGTTG | CTCACATCGC | 60 |
| | CGCCACCATT | AACAGCGTAT | CACATTTTAC | GTTTCCGTGC | AGCAAAAAGT | CGGTCCGAAC | 120 |
| 5 | ATAATGCTCC | AATACCACGA | TAGGTCCGCG | CAAGCGCCTA | ACACGTGCCA | TCCTGCTCGC | 180 |
| | CTCCCCACGG | GCCGCTCGCG | CTGTGCTGGA | TGAAACTCCC | CTCCAGCGTA | TGAGCGGACG | 240 |
| | GGCATTTCGCC | CTGCCATTAC | TGCACGCCCC | ACCGACAGGT | TTCCCATGTC | AGCATCGACG | 300 |
| | GCAAACCCGC | AGAAATCGAT | AAGTAGCAGG | ACACGCGTCA | GAAAGACCAG | TGTGGTATCA | 360 |
| | TGGCGCACGA | GGAGCTAGGC | AACCTCGCTT | TTCCGCAACC | ATGCCCCGCC | GCAGGTTCGA | 420 |
| | ACGCGGGAGC | GCTTCACCAA | GCCGGGATTG | CTAATGTCCC | TTCCGGCCAA | AGGCCGTAC | 480 |
| 10 | AGCTAAAAGA | GAGGCGCCCA | CGAAGGCATA | TAGCTGGCAG | GAAACGATAC | GATTACGCGC | 540 |
| | ACTCGCAGCG | TAAAGAACAG | GAGCATCACA | TCGAACAGTC | GCCTGTGGTN | TCCATCCCTG | 600 |
| | AAGGTNGACA | CTAACCTGAA | AAGCGGCGGT | TGGCACTAAN | TACAAACNTT | ACCACAGTAG | 660 |
| | ATGCCNAATA | CTGCTGACAA | ACGAACGCGG | ATTNCTNACC | GGTGCTGNCG | ANANAAATCT | 720 |
| | NCCAAGAACN | TTNAAACNCAA | TTGGCCACTA | CCCTCTTTGA | TCCCTCTTNN | ATCNACCGGT | 780 |
| | TTGGGANCCG | GNGNGCAAAG | CCCTGATGNN | ATCCCTGACN | AANTTGGACT | NNT | |

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1359UP

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|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCGGTGTA | GTACACGGTT | TCCGGCGCGC | CTTCTGGCAG | AGCAGCTCCG | ATCACCGCGG | 60 |
| 20 | TACCCAGAA | CTGCCCGGGC | GCGTCGCAAC | ACTAGTGCTT | GCTGCTGATG | CCCGCCTTCT | 120 |
| | AGTCGTTGCC | TATTTTATTC | CTGCCGCGCA | TGTTGCCGCT | GTCACGGCGT | ATCTCGATGT | 180 |
| | GCGCGAGCAG | GACGGCTATC | TTCCGCAGAC | CGTTCCCTGTG | CATCTGGTGG | CACCACCGCA | 240 |
| | ACCGCCGCAC | GAGCTGCGTG | ATGCGCTGGA | CGCCCTGCCC | TGTGATTCGG | TTTCTGGACT | 300 |
| | ACCCGTCGTA | CAATCCGTCA | TATACATCGG | CATCCCCGAT | GCCGCCACCT | TTGTTGGTCC | 360 |
| | AGAAGAACTG | CAGCGCACTG | CTGCCGTCAT | CGCGCACAA | CACGGGCCCA | GTGGGCCCAA | 420 |
| 25 | CTACGAGTAT | CTGAAGCTGC | TCCACAGCGC | GCTGCACTCA | ATAGCCGAAA | CGTTTGGCGC | 480 |
| | CCGCTTGTCG | GAGCTGGAGG | ACCATTTATCT | GGACGAGCTG | CTCGAAGCGG | TCGACCGTCT | 540 |
| | ACGGGCCCCAG | GCCTGTGCCG | CGGTAGGTGC | CTGATCTTCT | GCTAAACCCA | CGCCGAAACA | 600 |
| | AAGATAGCAC | CCGCCGCTCC | GGGTAGCGGC | CGGCCGTCGT | GACCAGTTGC | TAGCGTTTAC | 660 |
| | TTGCATACCC | GTATCTGCTT | TAACCGTTTG | GAAAGTTTAN | CATCATTAGT | TNNNTTGTGC | 720 |
| | GCTTTGCTGC | CCCTGCNTTG | GCAAGGGGCN | CCTATTTTAA | NITACCNC | GNTTAAACGNC | 780 |
| 30 | NCCTGAACAA | AAATGAATTC | NNTTNGANAN | TCCCCNATTT | TNAGGATATC | CCCNCTTGA | 840 |
| | ATTCGANAAA | CTGATTTGCC | NTTTTTNTNT | A | | | |

1360RP

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|----|-------------|-------------|-------------|------------|-------------|------------|-----|
| 35 | GATCCTTCTC | CTCCGCATTTC | ACAGAATATA | TCCTCGCGGT | CATATCCTTC | GCGGTGCAAA | 60 |
| | TAATGAACCG | TGAGTCCCGC | GACCATGTGA | GCGATGTGAT | GTCGGCGAAA | TGCCCCGCGT | 120 |
| | GGACCCGGTA | GCGCACAAAA | GGCGCAAACT | GCCGCTCAGC | ACTGACCCCT | GGAGTCCGCC | 180 |
| | AAATCTGAAG | AAACCTCCCA | CATGCCAGAG | CAAAGAGCTT | ACCGTCTGTC | GAAAACTTCA | 240 |
| | CGTCGTTTAC | TTTGTCCCTA | AAGTTGAAAT | GATGTATCAC | ATTCCCTCGTC | TTTATATTCA | 300 |
| | CAAGGATTGC | CCGACCGTCC | ACGTCAACCG | AAAGAAGCAG | TGTAACCTGG | GCATTGACGT | 360 |
| 40 | CGATCCTCCG | CTATATTCCCT | TCTATGCTCA | TATTCAAAGG | TAAACGACTT | GTTACCAATC | 420 |
| | AGGTCAAACA | CCGATACCCCT | GTGCCCAACG | GGCGAGAATA | GCAGCGTTCC | ATCCTCCGAA | 480 |
| | AACACCACAT | TTCCCTGTCT | GTATACAGTG | CCTAGCAGAT | TGGAAAACCT | GAAATCAGAC | 540 |
| | TTATCTGTA | TCCAAATGCC | TGCCCTTGCTT | GATCTTTTCA | TGGTGTAGCT | CATCTCATCT | 600 |
| | CGAATTTAAAT | TTTCCGTACC | ACCCAAAAAA | ACANATCCTC | CANCTGCATC | TCAAGATTAT | 660 |
| 45 | ATATATATGT | TCGAAAATTG | AANATCCACT | CNTCTAAATG | GTACACNGTC | ATATGAATGT | 720 |
| | GTTTNTTTGC | TCCANTATCC | CNACCAATTAC | CCACTCCAGA | ATGGGAATAT | ATGCCAGGAT | 780 |
| | NTCCGCCACT | TCACCCGTGT | TTGACANATT | TCTTGAGNTG | CTGACAGCCG | AGAAAAAAGG | 840 |
| | TCAAGGTTAT | | | | | | |

1360UP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| 50 | GATCGATGCA | AACCAGGACA | ACTACTTAGA | AGAGTGCTTG | AAAAATTAAAA | GTGTATTGAG | 60 |
| | TGAATTTGAA | AATGACGTAC | CGGATAAGAC | AGATATCAGA | GGAGTTCTCA | ATCCGGTTGC | 120 |
| | AATTGTTGGT | TCCCGTGAAC | ATGTGTTCTC | TGAAAAAAC | GGTGTAATGG | GAGATCTCGC | 180 |
| | GGCTGGAAAG | GAGCAAGTAT | TCGGAACATT | CTTTGCACGT | ACCTTTTCGT | ATATTGGTGC | 240 |
| 55 | AAAGTTACAC | TATGGCCATC | CTGATTTTGT | TAAATGCTATA | TTTGTCACTA | CCAGAGGTGG | 300 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | TGTATCGAAA | GCTCAAAAGG | GCTTACACTT | AAGCGAAGAC | CTTTTTGTTG | GGATGAGTTC | 360 |
| | CATATTACGT | GGGGGTAGGA | TTAAGCATTG | CGAGTACACT | CAATGCGGGA | AAGGCCGTGA | 420 |
| | TTTAGGATTT | GGGTCCATTT | TGAACCTCGC | TACTAAGATT | AGTGCGGGTA | TGGGGGAGCA | 480 |
| 5 | AATACTCTCA | AGGGAATACT | TTTACTTTGT | TTCAAATCTC | CCACTCGACC | GTTTCTAGTT | 540 |
| | TCTACTATGC | ACATCCGGGA | TACTACTTGA | ATATGTTTCC | AATATCCCTT | CTAACCCTT | 600 |
| | AATTANGNAA | TTTANTCCCG | NATTAATGGC | GGTCCTGGTC | AANCCNACCA | AAAATNTNNA | 660 |
| | NATTCNTTTA | ACCCCCAAAN | CTGCAAAATT | TATTGTTGCC | ATTNAACCCN | TAACCAAGGT | 720 |
| | NCCCCNTCNC | GNTTNANCNA | TCCNTNTCCC | NCCGGTNCCC | TTCCCAGTTT | TGNAAGAAAA | 780 |
| | ATTTAAAAAC | CNACNCCGGG | TINCCCCGAA | AATGAAACTN | NTANAAGNGC | CCCCTTTCAA | 840 |
| | ATTTTTTTTTT | C | | | | | |

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1362RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCATAAGC | TATTGGGTAC | COGTTGTAGC | CTAGCCTTAA | AATAATCGAC | ATTTTGAAT | 60 |
| | TTAGTTATTG | CGTGGAAATA | AGGTATATAT | ATTGCTTCCA | AGTTTAATGT | CGCTTTTAAC | 120 |
| 5 | TCACTAAAAT | ATGGATGTAA | ATTGTCTCAA | TTGGACTTTC | ATGTTCTATC | TATACACTAA | 180 |
| | CTGCGATGCG | ACTCATTTGT | CTTCAGTATT | CAAAACATGT | TTTATATATG | TAATATGCGG | 240 |
| | ACGTAGAAGG | CAACTAAATA | TGAGAGGCAA | CTTAGTCGCT | GTCGCTGTCT | CTGTTTGAAT | 300 |
| | CGCTGGAAATC | TTTTTCATAC | ATGATCTCGT | CGCCATTATC | TTCTTTTAGA | ACGCTAAGTT | 360 |
| | CCAAGTCCTT | ATGAGATTCC | TTGTTCTCTT | GAGAGACCTC | GTCATCAAAG | ATGATCTTGG | 420 |
| | TGTTGGAAAC | GACAGGCAGG | TTTTCTGCTT | GCGACCTGTG | ATAGCCTTCA | CTTAGCAGTG | 480 |
| 10 | ACCCCTCGAG | GGACACCATT | CTGCCCCGAG | TGTAGACATT | TTTAACAGTA | AATTTGAGTT | 540 |
| | TTCCGTCAG | CTGCTTACCG | TTGCCGTCAC | CCAGTGGCCT | AGAGACCGGG | CCTTGCGCAT | 600 |
| | CCCTGTGGAG | AATCGTTTCG | CTGCTCCCGT | TGGTACTCTC | TTCTGTTATGA | ATAAAGTCCA | 660 |
| | ACCATCCGGA | ATGTTATTTT | CTAATGAAGC | GTTTGAACCT | CGTGATCCAN | CAACCATNTT | 720 |
| | GTTGAGGTGA | CNNTTGAAT | CNCCCCNCGA | CNATCCCNAT | TTTNGNGACA | NCCNCAATTT | 780 |
| 15 | CCCNCCCCCN | NTTAANCCAG | GNTATCTGNT | CCANTGANTA | CATCTCNCTT | T | |

1362UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCATAGCT | GCAGGCTGCC | AAGCAGACAT | GCTGACATCA | TACAGCCAAG | AGAGCAGCTA | 60 |
| | CGCTGTCAAC | GAGCTGGAAC | AGAGGCTAAA | CGAGTTTTCG | ACTAAATGTA | GAAAAAATGC | 120 |
| 20 | AAGCCACTTT | CAGGCACTAC | TTTCACTGGT | AACTGAGATA | GACCATCCCG | ACAGCAGCCG | 180 |
| | GCTAAGTCAC | CGTACAGTAG | TCTTGACATA | CATGGAATAT | CGCTAAGGAA | GGAGGTGTAA | 240 |
| | TAGGACACAA | AATCATGAGA | AGAGTATTGG | CTTGTGCACG | ATGCCGTGGG | CACAAGATCA | 300 |
| | AATGCGTGCA | CAACAACGAG | CCACCCTGCT | CTTACTGCCA | GCACAAAGGC | ATAGCGGAGA | 360 |
| | AATGCGTGT | ATCATTTCGG | CCCAAGAAGA | GGCGCAAGAA | GCCGGAACCTA | TACTTAGAAG | 420 |
| 25 | GGGTGGCAT | GGCGCTGGGC | GGGTATCCGG | TGCAGCAGTT | GGAAACTGCA | GATCTGCACG | 480 |
| | AGCATAAAGC | CAGAGCGGAC | GGCTCTGATG | AAAGCCAAGC | TCCTGTGCAT | GCGCAGGACT | 540 |
| | ATACGATCGG | GAGCAAGCTG | CGCAGATGTA | CGAGCTGGCC | AGCAGATGTA | CTACGGCTGC | 600 |
| | CCAGGCGTAC | TCGACGGTTA | TGTCGAGTAG | TGCGAAGGTT | CCCAGGCGGG | TTGATTCTCC | 660 |
| | CGCCAATTGC | CACCCGGATT | CTAAACCGAA | ANAATGCAAC | NCATGGAACC | NGCCNTACTT | 720 |
| | TNTTGGACTG | TCCCCAGTGC | CCNATGCAIN | GTGCACTTGC | ATNGAGANNT | TGTCATCCTT | 780 |
| 30 | CCCCACTGCG | NTGTTTANAT | GANACCNCCC | AAGAATACCC | CCTGACCGTC | TTTGGTTCTT | 840 |
| | TTTGCCCCCC | NCCT | | | | | |

1363RP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCATTATC | AGCATTAATC | TTCAACTCCG | CATTGCCTCT | TAAACCAATA | ACAAAACCGG | 60 |
| | CAGATTGCCC | TCCAATTGCG | TAAGGATCCT | TTAACCCTTT | GAGGGATACT | TCAAAAAGCC | 120 |
| | CTTCACTAGG | CCAGCGAATA | TTAATCTTGG | CATGGAACAT | ATTCTTAATT | TTATCCCAGA | 180 |
| | AGCCTATTTT | CTTGGATGGA | TCAACTGGAG | GTTTCGAAAA | ATTGTCTAAA | CAATTCATGG | 240 |
| | CCTGTTGTAT | AGCAGCTTCA | TAAGAGCCAC | CCCATGTAC | CATCGTGATG | TCTTTTCGAGT | 300 |
| | GTATATCCAT | TGTTACCTGA | CTGTAATTTT | TAATAGGCGT | TAAAGACCGG | CGGAAGCGCA | 360 |
| 40 | ACGAATAATA | TAGGTCTATC | TCAGAAGAAG | TAACGGAAGG | AACAAGCGGC | ACAAATATCG | 420 |
| | TTCTGTAGCTC | CTTGGTTGAT | TGAATCATAT | CCTCCAGTAA | TAAAGAGGTC | ACCATACAA | 480 |
| | TGTATAGCCG | GAAAAGAACC | TTGTTGGGAA | GGCATAGCTT | CGGCATATGG | ACTAACGGTA | 540 |
| | GTNNGGTTAA | CCTTNAANA | GCCCCCTTAA | TTCAACCCANC | TTGGCTTCCA | ATNTAAAAGG | 600 |
| | GAAGCCNCCA | NTTATTCTGG | GTTANTTTTG | GAACCCCNNT | TNCCCNCAAN | TTTAATNAAT | 660 |
| | TCNCNNTTTT | ACCCCTCCCA | CATNANGGCT | TAAANTNNCA | TGTTTTTACC | CCCCNGCCAA | 720 |
| 45 | GANNTCNCC | ATTTTGGAAA | TGTTANANTC | CANACCCCTT | TTNCAINTTN | NAGGANCTTC | 780 |
| | AACGTCTCNT | TTNCCCCAAA | AANTTAATCC | CCCNAAAAAT | TCTTTCTCTC | TGGGGNTTTT | 840 |
| | CCCCCTTAC | CNT | | | | | |

1363UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGGAT | ATTTCCGTAC | GCTGGATGTC | GCTCGATGTC | AAGTACATGG | GTGATCGGTT | 60 |
| | GGCCTTTTCA | GTGTCGCTTC | AAAATATCAA | GCACAATAAG | GTCTGTCTGC | TGAAGTCTGG | 120 |
| | TGCGCTCGAG | GTTCTCGGCT | GTTTCACAAA | AGACAGTCCC | TTTGGACTAA | CATGTGTTGA | 180 |
| | ACTGAGTGTC | AAGTTTCTTC | AACTCACAGT | GCTGTGTAGT | AACCTACTAG | CACTATTTAC | 240 |
| 55 | CTTGGGCAAA | GAAGAAGATG | AGGACGTCGA | AGGCTTTGCT | CGTAATATTT | TCGATGGCAT | 300 |

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GACCGAAGAT | CCACAACCTGA | ATGCACAGAA | TTGTGTGGAG | ATGATGAGAT | CAAGAGTTAC | 360 |
| | CACGTTGCAT | AGCTACTTTT | CCCATCTAAC | TAAGGTTGAT | TTTTTTGTTG | ATAAGGTTAA | 420 |
| | CCTGGCAGAT | ATACCACCCA | GCTTATTGCC | TGAGTTGTCA | TCTGCCTGTG | AGCCTTTGAA | 480 |
| 5 | ATACGAAGTT | GCGCTTTCTA | GTTTTACTTT | TCAAGTCACC | CGTTTTAGCA | CCCGAACAGC | 540 |
| | CAGGTATAGT | ATCCTTTTCA | AAAGTCTGAT | AGACCGTAGG | GTCCGTATCA | CATTGTCATC | 600 |
| | GTTGCAGTGC | GCTCTCAGTT | AATGCCCTTA | AAATCCCCCT | GAAAAGGCTC | CTGAATACAT | 660 |
| | CCGGTTTTTG | AAGTTCCCAN | TTATATCCAT | ATGGTGANAC | TATACTTTTC | CTGAAAATTT | 720 |
| | GACTGGTCCA | CGCTGTTTCT | GANACAAAGT | CAATGGTGGG | CAGTTTCTCC | CCTACCNATA | 780 |
| | NATTGAAATG | AAACCCCCAN | CTTGAACCCC | GTTNGCAATA | CTGTANGACT | ATTTNTTCCN | 840 |
| 10 | CANAACCCCN | CCACGNAN | | | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1364RP

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|----|------------|------------|-------------|-------------|------------|--------------|-----|
| | GATCAGATCG | ACGTCACGTT | CCGTGCGCTG | GGCACACCTA | CGGACAAGGA | CTGGCCTGAG | 60 |
| | GTCTCGTCTT | TCAGCGCGTA | CAACAAGATC | CAGGTATACC | CGCCTCCGTC | GCGCAGCGAG | 120 |
| 5 | CTGCGCAGCC | GCTTCATCGC | TGCAACTGAG | AAATGCCCTCG | ACCTGATGTG | CGGTATGCTG | 180 |
| | ACGATGGACC | CGCACAAACG | GTGGGACACG | ACTCGTTGCC | TGCTCAGTCA | GTATTTTGTGTA | 240 |
| | GAGCTTCCGG | AGGCGACACC | TCCTACGGAA | CTTCCAAAAC | TAAATAAGTA | ATGACTATGA | 300 |
| | TAACCTAGAT | GGTATACTCG | GACGTTTGTG | GTTTGTGCTT | TGAGGCGATG | ACATTGGCTT | 360 |
| | TTATGGTATC | GCAGACGTTG | CCTGAAAAAG | ATTCAACGTC | TCGGTAACAG | ATTTGCCGAG | 420 |
| | ACTACTTGTT | GAAAGAACAA | AGACCAGAGC | GCTGGGATGC | TCACCCCAAT | GACGAACCCA | 480 |
| 10 | CTCCGCTTTA | TTGGCGCTGG | CTGCAGGTTT | CTTAGCACCA | ACAATAGGCC | GCCACTGCAC | 540 |
| | AAGATCTTTC | CCTCCAAGAA | GCTGGTGAAC | AGGATGCTGT | TCCGACCTTG | ATAGCCGACT | 600 |
| | GACCTTCCGG | AAATTACTTG | CCTTGTATAC | GAGCAGTTGT | ACACCCAATT | AGACAGTTAT | 660 |
| | TACGGGCAAT | TTGTTATACC | CCNCGNCTTG | ANGGCNCCGA | CNTTNTATCC | TGAAAAGNTG | 720 |
| | CTTGAAAAAA | TCCCCGCAAA | NGAAAAANNCC | ATCGCCATCT | ANTTGNCTNG | AAACAACTGC | 780 |
| | TTTACTGCTG | CCCAATNGAN | ACCAAAATCN | CGGCCGTACC | TTGACCCNTT | CACCCGCTNC | 840 |
| 15 | CT | | | | | | |

1364UP

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|----|-------------|------------|-------------|-------------|------------|------------|-----|
| | GATCTAGTGC | TTACAAGCT | AGAAGCTCCA | ACCATGAAAG | AGCGATCGAT | CCTGAGAACA | 60 |
| 20 | CTTTTTCTGT | GGAGGCTTAT | CAATGCTCTT | TCTATCCGCA | GCTTCCTCCA | GGCAGATGAA | 120 |
| | TACTGGCAGT | CGCTGGAGCC | TGCGCATGTT | AAGGCGTTTG | GATATGGTGG | GCTGACTTGG | 180 |
| | GAGTGGCAGC | ATGGGCTGCG | CAGCTATGCA | TTCCCCGATGC | TCCTTGAAAT | GTCTACTAT | 240 |
| | GTGGCTGGGA | TACTGGGTGT | GGCCACCCGG | ATGGCGCTGC | AGGGGTGGC | ACATGCGACG | 300 |
| | GCGCTGTGTG | GGGCGGTGGT | GCCGAGCGGC | GCGGCGGGCG | TGGCCGCGAT | GAAGGCCGTC | 360 |
| | TGGGAGCTGC | CGGAGGCAGC | GCAGGAACCTG | GTGGAGTACT | ACGGGGTATT | GTACGGGCCG | 420 |
| 25 | CGAGTGGTGA | TGGCGGCGGT | AGCAGCGTGC | GGGGAGTTCT | ACAGCGTGCT | GCTGGTGCGC | 480 |
| | AAGCTGTATC | TGCGAGTCGC | GGATAAGGGG | GACGACCAG | AAGGGCGACG | CGGCGCCGGT | 540 |
| | CAGCCGGTTG | GCGCTGAATG | CTGACCATGA | CAAACTTCTT | CAACTGTTTC | TTCCGGAACG | 600 |
| | CAACGTTTCAT | CACTCCTNCA | AAATAACCCC | CACNGCGNTC | CCCTCTAACC | NATTTGGATT | 660 |
| | GGANCCGGGG | CCCANCTPTG | GTTCTCNTGG | GCTTCCACCN | CAACTTTNGC | GGTGGCTGCN | 720 |
| | TTTGCCTGCC | CTGCACGGCC | NATACTTTTT | ATCTTGCCCT | CCCTGCCTGT | TCCTTGCCA | 780 |
| 30 | ACCTGTTGCC | CACCAAAGGT | GCACTCNNTT | ANCCTGTCCC | TAGGTTGCC | CGNGCCCGC | 840 |
| | GGGTTTTTCN | ATACCANTNA | NACNCTCCT | | | | |

1365RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCGGC | CGGCGGAAGA | CGCAGAGGAA | AGCGAATCGA | GCGCGGGAGA | GCGCTACTCG | 60 |
| 35 | ACGGACAAAA | GCAGTTACGC | GTCCTCCGTG | CAGGCGGTGC | TCAGAGCGAG | GACAGCGTCG | 120 |
| | GCAGCCAGCG | CAGATACAGC | AATGAGCAGT | TCAACGGCAG | CCAGCGATAG | CGCGGGCGGC | 180 |
| | GCTAAGATGG | ATGCAGCCGA | CGCAGATGAC | GCGACGCGCA | GCTTGGAGCT | GCGGCTTGCA | 240 |
| | GCCCTCGCCA | CGCAGGACCC | GGCTGTGGAC | AGCGCAGACA | CGGCGAGCGG | CGCGTCGCCG | 300 |
| | GCGTCCGCCG | CCGCGCCGCC | CAGCCCAGCG | CCCANCGCGG | CGACGGAGGG | GTCGGACGAG | 360 |
| 40 | GCGGCCGCGC | CGCTGGAGGT | GCCCAAGCAG | CGCGGCGAGC | CGGGCACGGC | GGCCGGCGGC | 420 |
| | GAGCCGGTGC | GGCGGCGGCC | CACCAACCCC | TTCCGCGTGA | TTTCGGTCCG | CGGCTCCAGC | 480 |
| | ACGTTCAAGC | GCGCGGCGGG | CGCGGACGGG | CAGGCGTCGC | GCACGTGCTC | CGCGGGCGAC | 540 |
| | AAGGCCGCAC | CGTGTCCGC | GAACGAGCAG | AGCATGCTCA | AGTTGCCGCG | CNAGCNCANC | 600 |
| | TACCCTGACC | ATGAATTCTN | CNACTGTTCA | AAGANATTAA | TTTCTTGANA | ACNTGAANAA | 660 |
| | ANCGGTCCCT | GTNCTTGAAG | AANCCCCCN | ANTAACNACC | CCCTNGACAG | CTCNGATTTT | 720 |
| 45 | CTCCNCCTTA | TTNTAAAAAA | TTTCAAATNC | GGGTGCTNCT | TCCCCCNCTN | CCCAACNTTT | 780 |
| | TAAAANGTTC | CCACGGCNTN | NTGNCCCN | NATTTGGCCC | CCCGTTCCNT | TNCCNGGT | |

1365UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCACGTGA | CGTTTCATGGA | GCGTGCAGCA | CTGCACGACA | GCGAAGCGGT | GGTGCAGCGG | 60 |
| 50 | ACGCGGCGGG | CGGCCGTGCA | GCTGTATGTG | GGGCCCCGGG | GCGGGCTGCG | GGGGCGCGTG | 120 |
| | GCGGAGGCGC | TGGAGGAGTT | GCTGGGCGGA | CCCTAGCGG | CGAGCCCACT | GCGGCCGCGG | 180 |
| | TGGGATGTGT | ACTTTATGCA | GCTGGCGCGG | CTCGCGGCTT | CCCGTTCCAA | CTGCATGAAG | 240 |
| | CGGCGTGTGC | GGTGCGTGAT | TGTGCGCGCC | TGCGCGTCA | TTGCCACCGG | GTATAATGGG | 300 |

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|---|------------|------------|------------|------------|------------|------------|-----|
| | ACGCCGCGCC | ACTTGCGCAA | TTGCCACGAC | GGCGGGTGCG | CGCGCTGCAA | CGGCGGCGGC | 360 |
| | AGTGCGCTGC | ACACCTGTCT | CTGCTTACAC | GCGGAGGAGA | ATGCGTTACT | GGAGGCCGGG | 420 |
| | CGGGAGCGCG | TGGGCGAGGG | CGCGGTGCTG | TACTGCGACA | CCTGTCCGTG | TTTGACATGT | 480 |
| 5 | TCGGTGAAGA | TCGTTCAAGC | GGGGATCAGC | GAGGTGGTTT | ACTCGCAGAC | CTACCGGATG | 540 |
| | GACAGCGACA | GCTTCAAGGT | ACTGCGGGCG | GGCGGCGTCA | GGTCCCGGCA | GCTACAGGAC | 600 |
| | GCGTTCCCCC | GCACTTTTTA | TTATATNNGC | NGGCNGCTTT | CCGNGCAACN | GCTAAACTTG | 660 |
| | CTGTTTTTNC | ATATAAGGNC | CCGGCGGTNC | CGACTNCAAA | GNAATNCCNC | AACCNITCTT | 720 |
| | TNTTCCGAG | GCNCGGGAAT | TTTCCCCGGA | TNTNNGGCC | CCCCCGTNN | TGCGGTTACC | 780 |
| | CANTTCCCCT | GCCCAATCCT | CCCCGCGAAN | CCNCCNCCAA | CCGTCTCGNN | TTNCTCCACC | 840 |
| | CGNCCTGNCC | T | | | | | |

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1366RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCCAAACGG | TCAACCAATG | CCTCCGAGAT | TGCCGGCATA | GCGGATGAGA | TTGCCAAAGC | 60 |
| | GGAGAAGCAG | GACAGCTCCG | CGGCGGTGTC | TGCCATGGGT | GCCGTCCTAG | GGCATGCAGC | 120 |
| 5 | GAGTCTTTTC | GGTGCTTTGA | ACGTGCTTAA | CAGTTCTGCC | GAGCTCTTGA | ACCAGCCGGG | 180 |
| | AGCAAAGCCT | GCTGCCGGTG | CTCTCAAGGG | CATGATGGAG | GCTGCGTCTA | ACACGACTAA | 240 |
| | GGCAATTGAC | TTCATCATGG | AGCGTGCAAG | TCATCCAAAG | GCTGGCGCGG | CAGAGCAGGT | 300 |
| | GATGGGTCTA | GATATGGTAC | TCCAGAATGC | CGTGAACTCA | AGCGAAACCT | TTGCAAAATAT | 360 |
| | CATAAAAATG | CAGATGGCAT | CGACCGAGGA | GTCCGAGAAG | GCCCTCCCAA | GTTTGTGTTGG | 420 |
| | CTTGTTGTGCG | TACTCGACTG | ACAAGATCGA | GAGCATGAAA | TCCGTGATTA | AGCTGATAGA | 480 |
| 10 | GTTCCGGTGAA | AAGAGCCCTG | ATGTATTGAA | TCCTGTCTCA | GAAGTGCTGC | AAGCTTCCGT | 540 |
| | GAAAGGTCAAC | AGATTGATAC | CCTCCGAAAG | AATTTTNGAC | TTACACCCAC | ATCCTGGAAA | 600 |
| | CTTCATNTTT | GCTGCGAGTT | ACAACTGGC | ATTTCCCAAT | CTGCCATTGT | TTCCCTTAAC | 660 |
| | GGNCCCCAAA | GGTTTGACAC | CCNCCNTCCT | NCAGGNITTC | ATNCCTACTC | CTNTNNCCNA | 720 |
| | CCNANGAATC | CNNTTGGCCC | TTNTTTAANN | CAAATCNGNC | CANATNTACC | CCCAGGTTTT | 780 |
| | TTTGTGAAAAN | CCCTTTTANA | CCTTTCCCCC | CCTCCCTTTN | NAT | | |

1366UP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTTATCA | GGATAAATGA | TTTGCTCCCG | GAAAGTCGAT | AAATTGCTCA | TATATGCCCT | 60 |
| | CTGGGGGAGA | TAATATATCG | GACTTTGCGC | ATTTTCAGCA | TTTCTACGCG | GCATGATTAG | 120 |
| 20 | CTTCGTAGGC | TTCTTAGGGT | TAGTAAACGA | TTGCAAAACA | GGCCACAACC | CCCCAAGGAC | 180 |
| | CCTGAAAAGA | GAAGACTTGC | CGCAGCCATT | AGGACCTATA | ATCAATAGAT | GGTTACCATG | 240 |
| | CTTCAACTCG | AAGTTAAGTT | CGGGGATAAG | GACCTGATTA | GCAGGTGTCA | CTAGTGGAAC | 300 |
| | ATGAACGAAT | TGAATCTTAG | AATCGTCGTA | TTCTATAATG | ACCTTTTTTCC | CATCAGTCTT | 360 |
| | CGAACTACTT | CCAGCGTCTA | GCCTGTCAAT | GAAATTTGTT | AACCGTAGGG | CCTCTCCCTT | 420 |
| | TAGCTGCTGG | ATACTACGGC | GCAGTTCGAC | ATAGCGGCCA | ATAGATGCGG | ACGCAGTTAG | 480 |
| 25 | CAGTAAACGT | CTGTTGGTGA | TAAAATCAGC | GGTGACATCC | TCAGCCATAT | TAGAACGAAA | 540 |
| | GAAGACGGGG | ATAGAGCATA | ATATCAAGCC | CAGCAGCGCC | CCAGACGTAC | TTACACCAAA | 600 |
| | AGCTAGTACA | ATTCTGTACAG | TGCTCTTAAA | TTTATCTCCC | CCGGCTNAGA | ATAAGTTACT | 660 |
| | GGTTTANAAN | AAAAACCCAA | TCCCATATTC | GGTNTTTGAC | CNTGAATAAA | CNNTNCCNCN | 720 |
| | TTGCTTGACC | NCACTTGAAT | TTATGACCGA | ATTACCNCNA | TTTTCCCCTG | ACATACCGTT | 780 |
| 30 | CAATTGGNNG | TTTGACCTCC | CACTNATTAT | GATTNAAATC | AACCCATCCN | GTCTTCNCGC | 840 |
| | TTTCCCTGGN | GATC | | | | | |

1367RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GGATCCGCCC | CCGTTCGCCC | CGTGTGGCCC | CGTGCCCCGC | GCCAGGGCCT | GCGCCGCGCG | 60 |
| 35 | CAGGCCACCC | GCGCCTCCGC | CGTGTGCCCC | TAGCGGATFG | TTTATTCCCT | GTGTTGCCTC | 120 |
| | CTGACTGTCC | ACTCGACCTC | TTGTATCCGC | ACCTTTCGTC | CAAGTGCGCC | CCAAACTCTG | 180 |
| | TTTTCTGTGC | TGTCCAGAGT | TTCCGTCTCT | GGCTGCGCTA | CTGCCTACCT | GCCGTTTGCT | 240 |
| | ATGGAGGAGA | AGTGTGTGTG | TATCTGATTT | GTTTATCTGC | TTTCTTCTCT | CTATAAGCTT | 300 |
| | TTTGTAATGA | AAAAAATTAT | GAAAACGGGA | AATCTGTGGA | ATTTGGAAAT | GCTGCTGGCG | 360 |
| | CTGCGTTGTT | CAACTTCCAG | CGCCGCGGTC | TCGTTCCTACT | GCTCTGTTCT | TGGTCTAGCT | 420 |
| 40 | TTCCGTTATT | TTTCTGTCTG | GTTCGCTTTC | TTTTTTCTGC | AACGCAAGGG | CGCGCTGCGT | 480 |
| | GCCTGAGGTG | CCAGGTGGCT | GCACAAGTGC | GGGCGCCCGG | GAACCGAGCC | GGGTAGTTAC | 540 |
| | CGGGCAACTC | TGCCGCGGAT | CCCCTGCGGA | GGCTTACGGC | AGCGCTTATT | TAATTGTTAC | 600 |
| | GTAAGTCACG | TGGAGCTAGC | ACGTGCTTGG | CAGCTCAGCC | GCACGTACAG | TAGCGTGTGA | 660 |
| | CTAATCGCGG | CGACCTGGTG | GGTTAAANGA | CGGGTTACNC | CGTTAAGTTG | GAAACGCNCC | 720 |
| | AATAAATTAC | NTACCCNTTA | AACACACGGG | ANAAAAANAN | NCCCGGCNCA | NAAGNANCTT | 780 |
| 45 | TTGCCCTTGA | AGCCCGGTGC | CCCAAGCCCC | GNCCNCCCCA | GAAN | | |

1367UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTTATGG | GTGGTTCTCT | AGGGCTGAAA | GCGGATATG | GACAGTCGAA | ATGGGCAGCA | 60 |
| 50 | GAATTTATTA | TAAAACGTGC | AGGTGAGCGT | GGGTTACGCG | GTTGTATATT | GAGGCCAGGC | 120 |
| | TATGTGACTG | GTTCCCTTTC | TACAGGAGCT | TCTAACGCGG | ATGACTTTCT | GCTCCGGTTC | 180 |
| | CTACGGGGAT | GTGTTCAAGT | AGGCAAAATT | CCTGATATTT | AAGGAACTGT | TAATATGGTA | 240 |
| | CCAGTTTGATT | ATGTGGCAGC | GTTAGCAACA | GCGGCTTCCT | TCTCGTCATC | AGGCAATACA | 300 |
| | CATATGATGG | TTGTAAATGT | CAATGCCGAA | CCAAGAATAT | CATTCAGGGA | CTATCTACTA | 360 |

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|---|-------------|-------------|------------|-------------|------------|------------|-----|
| | GCACTGAAGG | AATACGGGTA | CCAGGTAACA | TCAGTTCCTT | ATGACGAGTG | GAGTAAGGCG | 420 |
| | CTTGAATCGT | CGAGTGATGA | AGAAAACTCT | TTGTATCCGC | TATTGTACCT | TGTCCTAGAT | 480 |
| | GACTTGCCCTA | AAAACCTGCGC | AGTCCTGAAC | TCGATACTAC | TAATGCGAAA | TTTGTTTTAG | 540 |
| 5 | AAGAAGATTT | TGCGCGGACG | AATATTGAGC | CAATTATCAT | TACTTCGGTG | TCATTAGAGT | 600 |
| | TGTGGGTCCC | CATATCTCAT | TTTTCATATA | TTTAGCTCCC | NANAANAACC | ACCTAAAGTT | 660 |
| | CCCAGCCCCCT | GCCNATATTC | NCTCTCCCGA | CGAACAAAATT | CCTTAATANC | NCATACCNCT | 720 |
| | GCNCCGAACA | TACANCAACC | CNTAAATACC | NCAAATTGTN | GACAACATGA | NTGTTTTATT | 780 |
| | TTTTTATATT | ACAACCTATT | ATTAACCAA | TTTNTATCAC | GATCNTCTNT | GACGCCCTCT | 840 |
| | CTGACAAATT | | | | | | |

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1368RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCTGA | AGTAATATAG | AATCTGCATG | GGCGCAAACC | GTTGCGGTCC | AATGTAGCGC | 60 |
| | CGGTGTAGCG | GCCATCGGTA | AAGGTGAGCA | ACGCAGGGCC | ATCCCATGGT | TCCATCAAAC | 120 |
| 5 | AGGCGGCCCA | GTCAAACCAA | GCCTTCAGGT | TAGAATCCAT | GTCTTGTGG | TAGGCTTCTG | 180 |
| | GAACCATCAA | GCACATCGCT | TCGGGTAATG | ACAGAACACC | ATTTATCACT | AGTAATTCTA | 240 |
| | GCACATTGTC | CAGCGGGCA | GAGTCGGATC | CGCTTCTTTC | GATAATCGGA | TAAAGCTTCT | 300 |
| | CCAGTTGGTC | TTGGAAAACG | GCGGATGCCA | TGACACCTTC | CTTCGCACGC | ATCCAGTTT | 360 |
| | TGTTGCCTCT | TAGGGTATTA | ATTTACCCGT | TGTGTGCAAG | CCAGCGCAGA | GGCTGGGCAC | 420 |
| | GGTCCCAAGA | TGGGAATGTA | TTGGTTGGAG | AAACGAGAGT | GTACCAGCGC | CAGGTGAGAC | 480 |
| 10 | TTGAAATGAG | CATTGGTCAA | GTCGTGGTAA | TAATTATACA | CCTGGCAGGG | TCAATTGACC | 540 |
| | TTTGTACACA | ATTGTCCGGT | TATTTAGGAG | CACACAGTTA | ACAGTTCGA | TACCGATGGC | 600 |
| | CGTTAAACCC | NNCTTTCTTT | AAATNTTAAA | CTGGCATCCN | GAAGTCTCTC | GTNATTANCC | 660 |
| | TGAATCTNCN | CCCGATACTC | CTGCCCATAT | TTCTTTNCN | CAACAACGTT | TTTGAAATGG | 720 |
| | TTTCCCAAAA | CCAAGGAACC | NAAAGAAATN | CTNTGGACNC | CTCCAACCCN | AACCCNNATT | 780 |
| | TAACAATCGG | TACTNGCCAA | TTTNTTCAAG | CNNAACCTGT | NNNCT | | |

1368UP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCGTGACG | ACTTTGTGTT | TTACTTCAAC | CGTATTGCAA | CGATCTTGGT | TTCCGGGGCT | 60 |
| | TTGGATGACA | TTGCTATCGT | GCGGGATGAA | CTGCCATTGG | TGACTGCATC | CGGATATCAA | 120 |
| 20 | CTGGAGAAGC | CTGTTTCATG | GAATTTTGAC | AAGATTACGG | CTGTGAATAT | TGTGCGCTCT | 180 |
| | GGCGACTGTT | TCATGGCTTC | CCACGCAAA | ACAGTGCCAA | ATATATCCAT | CGGTAAATTG | 240 |
| | CTCAATTCAGT | CTGACTCTCA | AACAGGTGAG | CCGACGTTAC | ATTGCGAGTT | CTTACCAGTG | 300 |
| | AACATTGGCG | GCTCTTTTCA | CCAGGTCCCTA | TTGATGGATG | CACAAATAAT | CTCAGGCGCA | 360 |
| | GCAATTATCA | TGGCTATTCA | AGTGCTAGTT | GACCATGGTG | TTGAACTATC | AAAAATAAAG | 420 |
| | GTTATTGTCT | ACTTAGCCAC | TGAAATTTGA | ATAAGAAGGA | TAATAAATGC | CTTTAACAAC | 480 |
| 25 | AAAGTATCAT | ATATGCGGGC | GAAATATATAT | CAGACGAAAG | TATGACAGAT | GGCCAATGTA | 540 |
| | CTGGGCGAGG | GTGAGATTCA | TCGACTCAAG | ATACTTTGGC | TGTGACTGAT | TCAGAGCTTT | 600 |
| | TGCTGCCCAN | GCAGGAATTA | ANAACCTTTG | GTGCTATTGC | ATGTTACAAT | ATTAGCATTT | 660 |
| | ATCATCCCAA | CCATAGCTGC | TTTACNATAG | CATNTAATTT | TACTATCTTT | NAACCCACCC | 720 |
| | AGACTATTTT | TCCCCCNTA | CTTTACNAAN | ANTTTAANCA | ACTGACCCCC | CGNTATAATT | 780 |
| 30 | GCCCATCCAA | CACCCCCCNC | CTCNTAANAA | ANACCNACTT | GGAACGAGTG | GGAACCNCC | |

1369RP

| | | | | | | | |
|----|-------------|-------------|------------|--------------|-------------|-------------|-----|
| | GATCGCCTAC | TTGTCTCAGG | AACTTGTTAT | CATGAGAGAT | GATATGTGCA | ACAGGTTTAA | 60 |
| | GCGCAATAGC | ATTATTTTCC | CAACAGTGGA | AGAGGAACAG | AAACAGGAAT | ACATGCTGTT | 120 |
| 35 | ACAGCAGGAG | CTCCAGGATG | ATGAACGTAG | TTCCGGATCTC | TCCATTAGTC | AACTGATTAA | 180 |
| | GTCCAGGGAC | CAATTGCCGTG | CCAAGTGCCA | GGAGTCCAGG | AAGATAGTCA | AAACCATCCT | 240 |
| | CGATCAGCAA | CACCTTTTCG | CCTTTACCTC | GCAGGTGCGC | CTATAACGT | GGGACTATGA | 300 |
| | CTACACGTTG | CACCTGTCCC | CAATACCCTC | CACATATGATC | ATTTGCGACC | CAACTGCACC | 360 |
| | GAAATATGAT | GTTACTTACA | ACGGCTGCAA | GAGTATCAAT | CCAGGCTCAT | TTCTCCACAA | 420 |
| | GCGGAGCGTC | AACTATACTG | AGTACACTCC | TTTCGTTACGG | AAAGCAACAG | AGGAAGAAAT | 480 |
| 40 | TGTCGTGTAG | GACTTTAAAC | TTACATATAA | TGTCAAATAT | AAAGGTTTCA | GACGTGCTCA | 540 |
| | TGTTTTCGTAT | GGATATTTCT | TGAACTTTTC | CCGTAATATC | GTATGGCATA | CAGTAGAGGG | 600 |
| | GGTCAATNGG | AACAACCCGN | CGTGCTTCTT | CAAAC TG GNC | CCCANNC AAT | CCCAAAAAAT | 660 |
| | TNTGGAAAAC | TTCCACCTAG | ATTTTCTGGC | CATCGCNGAT | GCCCNCCNCT | CTTTGATTCC | 720 |
| | TNCANCCCCA | GANNAA TCNC | CCNCTTTCTT | GNTCATCCAT | NCCCN TNGC | CCAATTCCNA | 780 |
| | NCGTTAAANG | CCCCCCCCNC | TTTTCAACTT | TNGGATTTTN | NTNGTTTCCG | TCGGC N NCC | 840 |
| 45 | CCGTNCAGAC | C | | | | | |

1369UP

| | | | | | | | |
|----|------------|------------|------------|--------------|------------|------------|-----|
| | GATCAAGACG | AAGCAGAAGA | AGACGCGGTA | CGCATGTACG | TGCCACCTGG | TGCCGTCGGA | 60 |
| | GGCGGCCAAG | GCGATCGCTC | TGGAGCGCGA | CACGCGCCTG | GGGCTGGTAA | TATGCGTGGA | 120 |
| 50 | CCCGACGGTG | GACACACGGG | CGCCGCACAT | ACAGAGCAAT | CTGGCGCAGC | AGCAGAGGAA | 180 |
| | GTACGGGGCG | ACGGTGCCAA | CCATCCGTGT | GGCGGTGATT | AATTCGATCG | AACATTGCGA | 240 |
| | GTTGTTTTTC | GGCAAAACGC | TCGACCGGAA | CACACGGGAC | TACCTGGTAA | ACGTGAGCGC | 300 |
| | TGCAATGGTG | GTGTTGCGCG | ATGTGGTGGG | GACCC TG CCG | CCCGACCTGA | GGCCAATATA | 360 |

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|---|------------|-------------|------------|------------|------------|------------|-----|
| | TTCCGAAAAC | CTGAGGTACC | TGATAGACTG | GTTGGATACC | CCTGAGAGGC | CATGGCCGTT | 420 |
| | GCCGGACTTC | TATCCGGTGA | AGGTATACAC | TGCAATGGAC | GTGGAGCGCT | CGCTGCTGAC | 480 |
| | CGAGGTGAAA | TACTCCCCAG | AATAATGACT | CCCTTGGAGG | ATGCGTTTTA | CCAACGGCAA | 540 |
| 5 | GAAACTTACC | ATAGTTCCNT | GGACAAAGGA | ACCGTGGAAA | TGCGCCGATC | TCCCTACTAC | 600 |
| | CCAAATAAGC | GTTTTGAAAA | ATGACTACAT | TNGAATCCCN | CCNACCAAAA | TTGAACACTC | 660 |
| | CCCGGAANNA | NCATACNAAN | CCAAAAGTTT | GCTAAATATC | TCTTTCCNTN | GTACACTGAC | 720 |
| | CCCNACTNTT | GCAGGGAAAAG | GNCTGTTTTT | AAACTTCCAC | TCNGACTTNA | TTTTACCCCT | 780 |
| | CCCGCATCC | ACCNAANCAA | CACCTNTTCN | AACCATAGAA | CNNTTTTCCT | TTTAAACAC | 840 |
| | TNAGAAGCAT | TTNAAAAT | | | | | |

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1370RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGTAC | AACTGAGCCT | AGGTCTTGTT | GTTGAACGGT | AACCTCCACA | TTCATTATTG | 60 |
| | GCTCCAATAT | GGAGAACGCC | GAAGTTGGTA | AACTCGTCAG | TGCTGATATG | ATTAAAGGAC | 120 |
| 5 | GCACAGTCAG | CAGAATGGAT | GCAGCTGCTG | CGCAGTCTAG | CGGTAGCCGC | CAGCGTTTAA | 180 |
| | CATGAATCAC | ACACGAGTGT | AGAGGAAAGC | CTGCGGTTTT | ACCACCTCTT | TGCAAAGCCA | 240 |
| | CTATGCAACA | CGAGATGATA | GAGTTCACGA | ATGCCTCATA | TTTCAATGGA | AATGGCCAAT | 300 |
| | TGTCTTCGTT | AAAGCGTGGG | TTTGGATCTA | TGACAAGATA | GTTATTATCG | CTTCCCAAGG | 360 |
| | GGTACCATCC | GTTACTGAAT | AGTACTTTAT | CTTCTTCAIT | GTATTGCCGA | ACTTCGAGTT | 420 |
| | CGAACGAATA | TCCATCATCT | GTTTCAGAGT | GCTTCCTCTC | TGTAGCAGTA | TTAATGGTTT | 480 |
| 10 | CCTTGTATGA | AACTGCTACC | TTGCCTACTC | TTACAGGCGC | CTTAAATTCA | TTGAGCAGCC | 540 |
| | GTCCGCTGCT | ATTTCCAGTG | CATTCCTCCC | ATCCCATTCA | TCACTGTCTG | ACCAGTCTCC | 600 |
| | TCATCCCTCA | CNAATACCAC | NACGGTTCCC | CNCTCGTTAG | CTGCNNCANG | ATCACCENAT | 660 |
| | ANCTTTTINT | TCCCCAANTT | CCCCGGTCCN | NCANCGNCCT | AAAANGGTGG | NGGTANTCAT | 720 |
| | GGGTNTTTC | CANTTGNANT | TCNGCTTTTG | AAAAACAATC | CCCTTTAAGN | TNNAAGNCNA | 780 |
| 15 | AANGGGTTC | CTTCTAANTG | TGTCCCTTGG | GGCCCNCCNC | CCCAATNCCG | AGAT | |

1370UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCAGAG | GAGGAGCCCA | TTCCGACGCT | TGCATGGAAG | GAGGACACCT | TTGAGAATTT | 60 |
| | TCTGGCCGAG | GTGACATCCG | ATGAGGCGCG | CGAGACGCTG | GTTTCCGAGG | AGGATGCCCG | 120 |
| 20 | CACCTACCTG | GCCAAGCTTT | TATGACGGCT | GTCCGTGCTT | TTAAATTTGT | ACATACTGTA | 180 |
| | CATATTCCGT | TTAGTCGTAC | CACATTTTGA | TCAGCTCTTC | GGAAACCGCG | CTGGGCGTCA | 240 |
| | GCACGCCAG | GTCTGTGATC | AGCGCGGTAA | TGTGCTCGTG | CGAGGTGTAG | TCGATGGACG | 300 |
| | GGCTTAGCAG | CTGCTCTGAC | TGCTCGCTGC | CGGAGAAGTC | CAGCGGGTCA | CGCTCCATGG | 360 |
| | GCAAGTCTGT | GGGGGAAAGC | GGGAACATCC | TTACAAACTT | GTGCGATTCT | CTTACCACGT | 420 |
| 25 | AGAATGGCTT | GCGTGCGTTC | TTGGCGAGGA | CCCCTACCGT | GTACGTCCCC | ACGAGATTTA | 480 |
| | TGATGCCGCC | GGACTCGGCC | ACGCCCTCCG | CGCCAACCAG | CACCTGTCTGA | TTTTGTGTAT | 540 |
| | GATGGACCCA | CCGCGCTGTC | CACGATCATC | GTCAACGGAT | GCCCCTTGCT | TGCAGCAGGT | 600 |
| | CATACAGCTG | CTTGCCCTGC | CCCGAAGGCC | CGTGCTCCGT | CACGANACAC | CGGAAGCAAT | 660 |
| | CACTCTCACC | TGTTACTCAC | ACGAAANNCG | CCCGCAAACC | AGTTCCCAAA | AAGTCTCCTC | 720 |
| | TGTTAGATCC | NCCCATCTTT | GTNCTTTTIN | TNGACGCTTG | CCCGAANCAA | AACGTCCNTT | 780 |
| 30 | CCNCGTTGC | TGCTGNACCC | CCCTCCCAN | TNTTTTTTCC | CCCCCNCCC | NATTTCTNT | 840 |

1371RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCGAGAAC | AACTACGACA | ACAGCCACGC | AGACGGCGCG | GAAGCGCTCA | AGCCGAGCTA | 60 |
| | TATTTTTGAG | TACCTTGCCCT | CGCTCATGTA | CCAGCGCCGC | TCAAAGCTGA | ACCCGCTCTG | 120 |
| | GAACGCCATC | ATCGTCGCCG | GCGTCGAGGA | CGGCCAGGCC | TTCTTGCGTT | ATGTGGACCT | 180 |
| | CAAGGGCGTC | AAGTACTCCG | CCCCAAGCTT | GGCTACTGGC | TTTGGCGCCC | ATATGGCCAT | 240 |
| | TCCTCTCATG | CGTAAAGTCG | CAGATGCCGA | AAAAGACGTC | GCCGGCGTCG | ACCTCTCAAT | 300 |
| | TGCGCGAGCG | ACTATCCTGG | AGTCCATGAA | GGTGTATTTC | TACCGCGATG | CGCGTAGTTC | 360 |
| 40 | CCGTGCTTTC | TGCTTGCCA | TCATCGACAA | TGATGCCGGT | GTCAGCATGG | AGCAACTGGA | 420 |
| | AGTGGAAAAC | ATGACCTGGG | GGTTCGCCAA | GGATATTCCG | GGCTATGGCA | CCCAGAATGT | 480 |
| | CTGAGTACCG | GCGCGCAAGC | GCCGCACTTG | TATACTATCT | TGTCGCGGCT | GCTCGCCAAC | 540 |
| | CGCTGGCTAC | TCACATACAT | ATCAAGATGC | ATAATCAATC | TGCTCATGAA | CGCACCTCTG | 600 |
| | TTTTGTGGAT | ACTCTTCTCG | CGCGTATCCT | GAGTACGCTG | GAGTGCAAAA | AGAGCCACTT | 660 |
| | TGAAACAACA | CGAGTCGCAG | CTAAGNGGAN | ATCCGANTAA | NCAACNCACA | CTTCAATTGA | 720 |
| 45 | CTTATGAAAT | GCCCAAGGTT | GATTGAACTG | ACGTCTCTTG | AACNNTGGGN | CGTGAAACG | 780 |
| | CCCTCTTCAN | TTGAACCAAA | GTCCACAANN | AGGTATTTNT | TTNAACCGTT | CCGCC | |

1371UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCATTGT | GCGTTTGGAG | GTCACGCCAC | GGACGTGGAC | ATGTACGTGA | TGAGCTTCGA | 60 |
| | CGGGCAGCTC | TTCATTCTGT | CGGCACGCAA | GAAGCTTGAG | TTCCCGACGT | CTCCGCGGGA | 120 |
| | GAGTTGGGCG | TACCTTGCGT | ATTACAGCGG | ATACAAATTC | GAGCGCATGG | CGCTCCTGGA | 180 |
| | CCGTCCGGTG | CCGGAAGTCT | CCGCGAGGTT | TCTGGAGAGC | CGCGGCAAA | AGGTCTCCG | 240 |
| | CAACGGTCCG | CAATACAGGA | CTGTGATGAG | AACCGGCGTC | GGGGAGCACA | AGCTGGTGCT | 300 |
| 55 | CGGAGCTGAG | ATCGACGGCA | TCATTGACTT | CCGCGAGCCT | ACGGGCGACA | ACCTGAAGCA | 360 |

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|------------|------------|------------|-------------|------------|-------------|-----|
| CTACGTGGAG | CTGAAGGTGT | GTCAGAAGAA | CCGGAACCTTC | TCAGAGAAAC | TTTTCTCTTC | 420 |
| TTGGCTGCAA | TGCTTTCTGG | TGGGCATAAA | CAGGGTTATT | ATTGGATTCC | GGGATGAGAA | 480 |
| ATTCCGTCCG | AAGAGCGTCG | AGGAGTTCCG | TACGTCAGAG | ATCCACACCC | TGTTAAAGGG | 540 |
| CACGGAATAT | TCCAATGTAT | GTGTGGACGC | AATAGAGTGG | TATGGTGCTC | TTACGAAGTG | 600 |
| GCTATGTGAG | CTCCGCGGGG | CCTGAANACA | CTTCAACTGT | ACAGCTCTCC | NGCTCCCNCTG | 660 |
| GTGCTTACGT | NTGCNCCCCC | GCCCNACAAT | ACTCCCCNAN | NGGGACNATT | NTCCTGTTTG | 720 |
| TTCCCCAATT | GGCGCGGGCC | CNATATAANN | CANATTCCNN | CNTTNTTTCC | CTTNTGNTTT | 780 |
| TAAAAACCCN | TTNTTCCCAC | CNATTTNCCC | AGANNACANA | GGNNNTCCCC | ACCANNCTTN | 840 |
| CCCANCCNCA | | | | | | |

1372RP

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|------------|------------|------------|-------------|-------------|-------------|-----|
| GATCTTAAAA | TAAGATAGAA | TGGTAATAAA | TATCATTCAG | GTACAATAGA | TGCTGGTGTT | 60 |
| ACTAAAGGAT | TACCTGGAAT | ATAATTATCA | GGATGTCCTA | AAGTATTAGG | TGAAAAAGAT | 120 |
| ACAAATAATG | AAAAGAAAAA | TATAAATACA | AATACTGTTA | CTAAATCTTT | AAAAATAAAA | 180 |
| TAACCATGCA | TTGGTAATCT | ATCTAAATTA | CCTGTAATAC | CTAATGGATT | TGATGAACCA | 240 |
| TGTACATGTA | ATAGCATTA | ATGCATAAAT | ACTATTGCTG | CAATAATAAA | TGGTACTAAA | 300 |
| TAATGAAATA | GAAAGAATCT | TATAATAGTA | GGATTACTAA | CACATAAATGA | TCCTCATAAAT | 360 |
| CATAGTACAA | TATCATTTCC | AATAAATGGA | ATAGCACTAA | ATAAATTAAT | AATAACAGTA | 420 |
| GCACCTCAAT | GTGACATTTG | TCCATATACT | AAACAAATAAC | CTAAGAAAGC | TGCTGCTATA | 480 |
| GTTAAAAATA | AGATAATAAC | ACCAACTGTT | CATACAATAA | CTCTAGGTGA | TTTATAAGAA | 540 |
| CCATAATATA | AACCTTTACC | AATATGAATA | TACATAACAA | TAAAGAAGAA | TGAAGCACCA | 600 |
| TTAAGATGCA | TATATCTAAT | TAATCAACCT | AGTTGTACTC | TCTCATAATA | TGTTCTACTG | 660 |
| ATGANAAGC | TAATCCATAT | TANATGAATA | AGCATNNCTA | AAAAATACCN | GTNAGAATTG | 720 |
| AATACTAACN | TAACCTATAA | AACCNAAATC | NTCCATATAA | TGAGAAGGTG | AGGGAATCAT | 780 |
| ACNACTATAA | CNATTTAATA | TATTGATTCT | ATTNCCATTT | TNTTNTNAAT | TTTTTC | |

1372UP

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|-----|
| GATCTAGAAT | TATTAAGTCA | ACTATTAAC | AATATCTATA | ATAATAATGG | TTTATCATTA | 60 |
| AAATCATTA | AGATAATTAT | TAATAAATTA | CCATTTAATA | ATGATATATT | ATTATCAAAA | 120 |
| AATATATGTTA | ATAAAATAAA | TAAATATAAT | TTACTAATTA | ATAATAATTT | AAATAATAAT | 180 |
| AAAAAAGATT | TAATTAATTT | ATATACITTA | GATAATAAAT | TATTAGATTT | AAGTATCTTT | 240 |
| AATAATATAT | TATTAGGTAA | ATATTTAGTA | GGTAGTAATA | TCCAATTAATA | GGGTAGACTA | 300 |
| TTAAATAGAA | ATATTACTAG | ACTAATAAAA | ATAAATATTA | TGAAAGGTAC | ATTTAATAAT | 360 |
| TATATATATC | AATGAAGTAA | ATTAAATAAT | TTATATAAAT | TAAATTTATAT | ATCACTTAAT | 420 |
| ATTAATAAAC | TTAATAATCT | ATTTATTAAAT | AAAAATGGTA | TATTTAATAT | TAAAAATAAA | 480 |
| TTAAATACTA | TTTAATAAAT | ATTCTAAAGT | AATTTCTTAT | TTATTTTATA | ACATTTTAAA | 540 |
| ATGTTTTATG | TTAAATAGAT | AATAATCAAT | TAAATAATAA | AAATTAAGAT | GCCACAAATA | 600 |
| ATTCCATTTT | CTTTATGAAT | CAATTAACCT | ATGGTTTTCTA | TTTATTTTAC | NATTTATCNC | 660 |
| ACTACTNATG | TTTTTTTACC | NNTGAAATTTN | ANAATATATA | CTCNKNANTA | NATATTNCNA | 720 |
| AATTATAATA | TTAATTTAAAT | TTAATTAATC | TATTATGATC | CTNNNTNTAA | ANATATCAGA | 780 |
| ANAATTTAAT | ATATATATNG | AAATATNTTT | ATCCCCCNGG | NCACTTGAAN | AAAANTATAG | 840 |
| TTTCNTCCCC | ACAT | | | | | |

1373RP

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|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| GATCTTAATT | TAAAAATTTA | ATTAACATTT | TATAAATTTAG | AAATAATATA | TCTAGAGATA | 60 |
| TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAAATA | 120 |
| AATAGAAAAC | CATAAGTTAA | TTGAATTCATA | AAGAAAAATG | GAATTAATTTG | TGGCATCTTA | 180 |
| ATTTTTATTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| ATAAATAAGA | AATTACTTAT | AGAAATTTTA | TTAAATAGTA | TTTAATTTAA | TTTTAATATT | 300 |
| AAATATACCA | TTTTTATTTA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| ATTTAATTTA | TATAAATTTAT | TTAATTTACT | TCATTTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| TTTCATAATA | TTTTTTTFTA | TTAGTCTAGT | AATATTTCTAT | TTAATAGTCT | ACCTTTTAAAT | 480 |
| TGGATATTAC | TACCTACTAA | ATATTTACCT | AATAATATAT | TATTAAGAAT | ACTTAAATCT | 540 |
| AATAATTTAT | TATCTAAAGT | ATATAAATTA | ATTAATCTTT | TTAATTATAA | TTTTAATCAT | 600 |
| TATAAATAAGT | AAATATATTA | TTATTTTAT | AACATAATTT | TTGATAATAA | TATACCATTA | 660 |
| TTAATGGNNN | TTATAANAAT | TATCTTNAAG | GATTTNNNTGG | AAANCCNTNN | TTTTAGAAAT | 720 |
| TNGGTAAANG | TGNNCTAAAN | NCCAAATCCCN | AATTAATPAAA | TTAATTTAAN | AANAANNANC | 780 |
| CTTTNTNTNA | ATTTAGTTTN | AATTTAACCC | NCTCCCCNTN | TTAANAT | | |

1374RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCAATGAT | AAATCGAAAT | AAACTGATAC | TATTGTAGCC | ATTTTCTGA | ATTAGCACCT | 60 |
| | GGAAACACTT | TTTAACTGT | TCCGGAGTGG | TCTCTGACTG | ATTGGAGTTG | AGCGTCTCGC | 120 |
| 5 | GCGTAACTGC | CTCTGCTGTC | GTCTTAGCTC | CGACGTTTTC | CACTGCCCGC | CGCTGGGTG | 180 |
| | CCACACGCGT | CTCTTCTGA | ACTGCGAGTG | GCCCCAACAT | GTGGTCCACT | AGCGTTGGTG | 240 |
| | CGCCGCCAAG | TTGCTGGAAT | AACGCACCCA | TCTTAAACCA | GTTGAACTGT | GCAAAATCTC | 300 |
| | CATACGCTTC | GAATTGCCTG | AGATAGGAGT | TGCGCTGCAT | GCTCTGGCGA | AGAGCAGCAT | 360 |
| | CCGCATGCTG | ATTGGTGCTC | TCATCTAGAG | CGTCGCTGGT | AGCATCTCCA | TCATTTTCTGA | 420 |
| | TGCTGTCTGT | CTGGGTATTG | CTAGCATCGT | CTGTTTCCGG | ATACATAGAG | CCAGGTACAC | 480 |
| 10 | TCACGTGATT | CAACTCAAGG | TAGTCTTCCA | GCAGAAACCG | CTTCGCCCGG | TTGACAAACT | 540 |
| | CCTCAGGGCT | CAAAAGCTTC | CCCGCATTTG | TCAGTTTATG | ATTGCGTATA | CTCAAGCTTG | 600 |
| | CAAGTCGCTG | ACGCTCATCA | CGGCATGCGA | ATCCTGGGCA | AAAGAGAATT | GACCTCAGTT | 660 |
| | CAATCGCCCC | CCCTGCTTTA | AAAACATATT | AACTCTCCCN | CCGCNCCNAG | GANAGAATNC | 720 |
| | TCCCGTACTT | CNANGNAGNC | ANCTNTGCC | NTCATCTCAA | ATTGCGNIACC | TNGTNANTTG | 780 |
| | GANCCNTTCC | CGAGCCCCCTC | TGCCCCCTTA | TTGANGNTCG | NCCCCGTTCC | A | |

1374UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTAAAG | GCGGATATAA | AAGCTGTACA | AAAGAAGATG | AACAAGCTTC | CAACGCTTCT | 60 |
| | AAACTTTGAT | ACTTCCGCCA | TTGCCCTTGA | AGATGAAGGC | GAAACAAAAG | AAAGTACCGA | 120 |
| 20 | ATTTAGGGCT | ATTATTAAAG | AGTTTGAAAC | ACAAAATAGT | TTCCAGAAGA | TTTTATATGG | 180 |
| | GAATTAATAG | ATAAGACTAG | CATCTTTTGA | AAACTTTATA | TAAACCAGGC | AGATTAGCTA | 240 |
| | CCTCTACAAT | GTCTTTCAGA | AGTCTCGTCG | ACGCTAGGAG | TCGCCTCTTT | ATCGTTGGGA | 300 |
| | AAACCACTTG | TTCCAGAACT | GTCCCAATAT | GCTCTGCCTT | GGAAATATAA | TAAGCGCGAA | 360 |
| | CATCGCCATC | GATTGTGTG | TCGTTTATAT | CTACGTGCTC | AATAATCTCA | GGAATATAGA | 420 |
| | ACAAGGCAAG | TTGTCGAAGG | ATTCCCTTCTA | GGCACTCCTT | TTCCGACGAC | CAATCTACCT | 480 |
| 25 | TAGTTCCCAT | TCTGTAGAGG | AAAAATCGAA | GTTTAGAAAG | AGGCGGGACA | TAATCCTTTA | 540 |
| | AAAGTAAGGG | TACACTCTTA | ATGCCGAACGT | TCGTCAAATC | GGTCTCGTCT | CCACATATTT | 600 |
| | CAATCGAGTA | ATAGTTCTCT | AGCATTTCTCT | CATGTCCACA | CTGTTGAGTT | ATTCCAAATA | 660 |
| | TCGAATGCGA | CGCATTATCC | ATCTTAGATA | NCGTTGGTAT | ATCGCTAACT | TCCGCAATCT | 720 |
| | CAACCNCAAC | CTNGATATNA | TTTCCCGAAN | TTTGNNAATN | NNNATCCCAT | TGANAAAATT | 780 |
| 30 | CCTTCCTTAG | GACCTATCAC | CCAAATANTT | AACCGCGNTT | NANGATCCCT | GNTTGGTCAC | 840 |
| | AACCNCNGGT | CTTNNN | | | | | |

1375RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 35 | GATCTTAATT | TAAAATTTTA | ATTAACATAT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCTTA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| | ATTTTATTAT | TTTAAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTTAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| 40 | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTATTTTAA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TACCTTTTAA | 480 |
| | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAGAA | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATATAAATT | AATTAATCT | TTTTTATTAT | TATTTAAATT | 600 |
| | ATTATTAATT | AGTAAATTAT | ATTTATTTAT | TTTATAACAT | AATTTTTTGA | TAATAATATA | 660 |
| | TCATTATTAA | ATGGTAATTT | ATTAATAATT | ATCTTTATGA | TTTATGACAA | CCATATATTA | 720 |
| 45 | TAGANATTGT | TAATAGTTGA | CTAATATCCN | ATCCAACCTN | TATTNATTTA | NAGATCATAN | 780 |
| | ACCTTTTATA | CAATTATTTT | NATATAACAT | NTACCTNATT | ANAATATN | | |

1378RP

5 GATCCTTATA AAATGGGCAA TAGACGTGTT ATAAT
 ATTTAATAAA ATATAAAATT AATAATTAAA GTATT
 AATAAGTATG GATTTTAAAC TGAAATTTGT TAAAA
 TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTT
 GAAACATATA ATTAATAAAA GAATATTAAT TAATT
 TTATTTAATA AATATAATAA ATATTTTAAT TTAAA
 ACAGTTACTG TAGGGGAACC TGCAGTGGGC TTATA
 10 AAAATAAATA TATTTTAA TATATTTTAT AATAAG
 ATTATAATTT AATAATTTAA TAACTTATTA ATTAGA
 GCTATGCATT ATGGTTGGTA CACTCTAATT AATAAN
 TTATACCATN AATTATAATT ATTTTAAANA NATTT
 AGTATTNTNA TTTNATAATA ATAAAAATGA NAAAA
 ANANTTACCC TTACACCTCC CNTTAAATTT TTACCC
 15 GNGNNCCCN TGCTCCCN TGTCCCCC ATTN

1378UP

20 GATCCTTGCG TACTAAGAGT TAGACTTTAA TTAAT
 CATACTGACT CACGTCGTAT TTAACCCAAC TCACG
 AACCCTACTT AGCTGTTACA ACCAAGAGGA TAGGT
 TAACTTACAA TAGCTACTCT ATCGTTATAT TACCCT
 ATTTAATTAT TATTTCAATA ATTCTCATT TGTTC
 ATTAATTAAT ACATATTGGG CTTTCGTGGA TATAAT
 TAGTCGTTGA ACGTTCTTAT AACTTTATAA AAAGG
 25 GTCCTTTATT ATTATAAAAT AATATTAGGA GTTCT
 ATATTTAAAT ATTGATAATT AAATTTACA ATTTAB
 TAACTTTTAT TCGTTATCAA ATACCATTAC AATATG
 TTACGTTATT GTTCTACTTG TAGGTATTAC AATTAT
 TTTATATATA TCCCATATAA GTTTTATTA ACATA
 TATATAAAAT ATNATTATAT TAAATNATTA TTAAN
 30 TCNTTTTAA TAATAAATTA TTAAGGACTN TCCAAC
 ATTAATGTC NT

1379RP

35 GATCCAATTC TCTCGGTAGT TTCCTTCCAT ATAGAG
 CAACAAAAGA GTTCTATCT AACGTGCCAT CGCGTC
 GAGCCAAAGT ATCTTGAGGT AGATTGCTTC GAGACC
 ACATTAGACC ATCCTCTGGC ACCTCTCTTG TCTCAT
 GGAGCAAGTC AAGATAAGTG TCTCTATTGC TGACCC
 CCCTTTTCAGT TACGTACCCA ACATCAAGGT GCGACT
 40 AATTACGGTA TCGAAGATT TGACGTATCT TCTCGC

45 GACTTCGACT ACGGGAGTTG CGGTGCGCTC CGTAA
 CGCTTAGTTG ATGGGGCTCT GAGCTGGAAC TGTCAT
 TTAGCCGCAC ATGCAATTTA CTCTGCACGA GAGCGT
 ACGTTGGCGG GTGATTCTTG CTGGGGCCTA GCCCAC
 CATCCACTTG GANTGCTGCG TTGANANTTT GGTAT
 CCAGTTCATA GGAATTTGTT CATGTCAATT ACAAN
 CNTGTCACGT CGANGNATNT GTCNTCCGTA CANCT
 50 CNCNN

55

1379UP

| | | | | | | | |
|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCCGGAAG | TTAACACTGC | CTGGGATTCA | TAACCTGGCA | ACAGCGTATG | TGCGTGTGAA | 60 |
| | CATAGTCGAT | GGAGCACATG | AATTGGGGTA | TCAATACTGA | TTTCATAATG | CTTTCTGGAG | 120 |
| 5 | CCATTGACCT | TGCGTGACAA | CCTCAAACAT | ATTTGGAGCC | AATGGTTGGA | CTTTATGTGG | 180 |
| | GGAGATGCAG | TATTCGGATG | TATGCACTGT | TGGTAGTTCA | ATCTTTTCGGG | GACAAAAACC | 240 |
| | TGGTAAGTGA | ATTGTCTCTT | TGAAGCGCCA | CCCGCTCCAT | CATCCAGCAG | GTTTCTCTAAG | 300 |
| | TTTTTAGCAC | GCGAAAGGCT | CGCGCCTTCG | TGTATACCCCT | TAAGTGGTGG | TGCTTTGTGC | 360 |
| | TCGACCAGCA | AGAACTTCTT | TGTAGGCTCC | ACTCGGTGTA | CTTTCCGACC | TTTACAATAA | 420 |
| | TACTCTAAAG | TTTCCGTCAG | GAATATTCTA | ACCCGTGTGGA | GCACGAGATT | AGCCCGTGGG | 480 |
| 10 | TTTAGCGAGA | GCGATATTGG | TAGAAATGCG | TCCAAAACTA | TATCTTTTCA | TGCAATTACG | 540 |
| | ATPTCATAAC | TCAATTCTTT | TTCCCACTCA | CGTGATATGA | CTATCGGTTC | GGTATCTTCT | 600 |
| | ACAGAGTTCG | GAGATAGTGT | GCGGATAAGT | TAATCGGAAC | ACGACGTGGA | CATTGGACTT | 660 |
| | AAGGTCCAT | GCCCTCAATG | TCACTCAAGC | AGGTATTTAC | GTTCCCNATG | TTACTAGAAT | 720 |
| | CTTCTTGCTC | GACNCCGGAN | TNGANCCCA | AGAAAAATA | TCCCGCCNG | AAAANAATTT | 780 |
| 15 | CCCTGGNGTG | ACGTGTGNAT | NACCCNACGA | AAACNTCCTC | CTTCGAANGT | NCCTTATATT | 840 |
| | CNNTNAAANA | ATANA | | | | | |

1380RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCATCG | ACCTCGCCAA | AGTAAGGCAG | GCTCTCGACG | GAGATCCAGT | CGACAAGGTG | 60 |
| 20 | AGGAAGCGTG | GTGTTCTTAC | CCTCGAACAC | AATTGGCTCC | TTCTCGCCCG | GCAAGTGGAC | 120 |
| | CGCCAAGGTG | GGCTTCTTAG | TTGGGTACTG | CACAAATACA | AAGTCGTTC | GGAGCAGGTT | 180 |
| | GGCCAGTTTC | TAAAAGGACT | CGTTCAGGCC | CTTCACGCCA | CCGTCAACCA | CCACTGCGGT | 240 |
| | CTGGACTCC | GCAAGCAGGT | CCTCCAGGTC | CTGGGCGGCC | TCCTTGCCCT | CCAGCACCGT | 300 |
| | CACGCCCGGC | TCGGCCTGGC | GCAGCATGTA | CGCCACAATT | TCCTCGGCCCT | TGCGTGCGCC | 360 |
| | CGTGATGGC | ATGCCCTCCT | CTGACGCCCC | ACTGTGGAAC | ACCTTCAGCG | TCGGGTACCC | 420 |
| 25 | GCGCACGTTT | TGGCCCGCGC | ATAGATCCAG | CTCTGTCTCG | CAGTCCACCT | GCGCCAGCTT | 480 |
| | GATGCCCTTC | TCGGCCAGCT | CCCCAGCCGC | CTTCACGTAC | TCGGGTGCCA | GGTGCTTACA | 540 |
| | GTGGCCACAC | CATGGCGCAT | AAAACCTCCG | CATCACAGC | GGGTCTCTCT | CTAAGAATT | 600 |
| | CCCGAACGTC | TCTCCGGTCA | ACTTGACACT | GCAGAGTCT | CTGGTGCACT | GGCATCTTGG | 660 |
| | GCCTGTGCAA | CTGTGCCAGC | AACCGGCGAT | GGACAACACA | AACCGCTTGT | CCAAAANCNT | 720 |
| 30 | TCTCGCTGCG | TCTATCTTAC | CCGTGGTTTN | GTGNACTCTG | TGGCGATCAA | ANCCGGNTNG | 780 |
| | CNATTTTGT | TTTATACTGA | TCCAGAATTC | ACCTTNTCNC | AAAACNNTTN | CCNGAAAAGA | 840 |
| | NCGNGTN | | | | | | |

1380UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| 35 | GATCTCGCCT | GTTGTGAGTG | ACGCCGAGTT | GCGCGAATTG | TAGCAGTGCG | AGAGGAACGT | 60 |
| | GCCGACGGTA | TCGTTTGCCA | GCGCGACAAC | GCGCACGCTG | CCCAACCCGA | CCGCGTCCAA | 120 |
| | CTGCTCTTGG | TACATCTTGA | CCACGTCTTT | GCCGATCGCA | TCCTTGATGT | TGAAGCCCTT | 180 |
| | CGTCCAGCGG | ATCAAAGTGC | CGCTCGATAG | CGATGTCTGC | GCCACGGGAT | ACGAGAACGT | 240 |
| | AAACCCGAGC | TTCAAGTTGGC | CGCCCTCGCT | CTGGAGCACT | TCAGAGTGGT | AGCGCTTGAC | 300 |
| 40 | AAACGCCATT | GTGCGCTTCG | CGATGAAGCC | GAACAACCTG | TCTGATGTTA | CGTCGTCTGC | 360 |
| | AAGGAGCTCC | TCGGGGATCT | TCGACTTCAA | CTGCTCCAGC | TTGAACGTGT | GATCACCCTT | 420 |
| | GAGACGCACC | GAGCACACCC | GGAAATTCGT | GCCGCCAAGG | TCCGCCGCCA | AGAACGTGCC | 480 |
| | CTCTCTAGTG | CCATTGGGCC | TGCCCATCAC | GTACGACGGG | ATCATCGGAA | GCCCACGGTA | 540 |
| | CTCCCGTCCG | TCTCTCCGTT | CTTGAGACCT | GTTCATACA | TTTCATGAAG | TACGCGGTCA | 600 |
| | ACTCGCGGAG | TTTGTCTCTC | GTCACCTCGA | AATCCTTACA | TATTTCTGTC | ACTGCTCCTC | 660 |
| | GACTTTCCCG | CGTTGCGCTT | GTGCAAACT | TCNAAAANAT | CCTGGTACTG | TAAANATTAG | 720 |
| 45 | ACTTCGANAC | GTTGGTTCAG | TCTTTTCNNGC | TTNCCTACTC | NCCNGCCNTG | TCNTANTATT | 780 |
| | TTGANGGCGN | TCCAATAAAA | AACCCCTTNG | GGGTCNCAA | GNGACCTCCC | ACCCCTCTTT | 840 |
| | GTTTCCCCNT | CCCNNAATGA | | | | | |

1381RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCATTATA | TTATAAAATA | TAATAAAGAA | TATATTTAAA | TAATAATAAT | AATATGAAAT | 60 |
| | ATTATATTAA | TTCTCCATTG | GAGCAATTTG | AGATTAGAGA | TTTATTAGGT | TTAACATCAC | 120 |
| | CAATAATAGA | TTTTAGTTTT | ATTAATATTA | CTAATTTTGG | TTTATATCTT | ATAATCTTTT | 180 |
| 55 | TATTAGTAAT | TTTACTAATG | AATTTAATAA | CTAATAATTA | TAATAAATTA | GTAGGTTCTA | 240 |

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|----|------------|------------|------------|------------|------------|------------|-----|
| | ATTGATATTT | AAGTCAAGAA | ATAATTTATG | ATACTATTAT | AAATATAGTT | AAGACACAGA | 300 |
| | TTGGTGGTAA | AGTATGAGGT | TATTATTTTC | CATTAGTTTA | TACATTTTFT | ATTCTTATTT | 360 |
| | TTACTATAAA | TTTAATTAGT | ATAATTCCTT | ATTCATTTCG | TATAACTTCA | CATGTAGTAT | 420 |
| 5 | TTGTAGTATC | AATAAGTATA | ATTATTTGAT | TAGGTCTAAC | TATTATTGGT | TTTTATACTC | 480 |
| | ATGGTTTAAA | ATTCCTTGGT | TTATTTTAC | CACTAGGTAC | ACCATTAATT | TTAGTCACCA | 540 |
| | TTATTAGTAT | CAATIGAATT | ATTATCATAT | TTTGCTAGAC | TTATTTCAAT | AGGTTTAAGA | 600 |
| | TTATCAGCTA | ATATTATAGC | TGGTCATTTA | TTAATTGTTA | TTTTAGGTGG | TTTATTACTT | 660 |
| | AATCTAAANC | CACAAATATT | TAACTTTTTN | TTAAGTTCNN | CCNATGAATG | CTATTTNAGT | 720 |
| | ATGTNTGTTA | GAATTTNTAT | CTTATACCNG | CTTANTNTGA | AGTNTNAATA | CNCCNTATNA | 780 |
| 10 | AACTATTTAT | TCCTTATTAA | ATTAACANTT | NAACNCCCNA | TTANTTTNTA | TNCTT | |

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1381UP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCATTGTC | CAATATTCCC | CACTGCTGTA | TCATATAGAT | ATTGATTATA | ATTTCTAAAT | 60 |
| | CAACGTGATT | GTTCTAACTT | TAATTAACAA | TTATGAATTT | TTGGCTAGTT | ATTATTTTTT | 120 |
| 5 | AATTAACTAA | TACCTAAATC | ATTATAAGCT | TGACTTAAAA | CAAATAATTA | TTACATTATT | 180 |
| | CTTTATTTAT | TATTTAATAT | TTAGTTAAAT | TTTAAGTTCA | TTATTCTTAA | TTTTTACTCA | 240 |
| | CGAGTACACC | ACTTATTAAT | ACTATTAATT | AATAATATTA | ACGTTTGATT | CGCATGTGTA | 300 |
| | ATGTCCTTAG | TTAGCGCTTA | ATCTGAACCA | ACATCATGTT | CTCATTATTA | TTAECTATTT | 360 |
| | TTAATTATTT | TAAATAATTA | TTTAATACGA | AAGTTATAGG | ATTCTGAACCT | ATGAAATCAT | 420 |
| | AAAGATTTAT | AATAGCTCAA | ATATTACACT | TTAAACCACT | CAGTCAAACCT | TTCTTAATAT | 480 |
| 10 | ATATACCTTA | TATATGGTTT | GATAATTTAC | TTATAATATA | TAGTATATAA | TTTAATGATA | 540 |
| | AACTCTTATC | ATTTAGGTGC | GTAGGGTTCA | CCCCCTATT | GCTAGTCAGC | AATATGATGT | 600 |
| | ACCTCCTAAA | TGATAAAGAA | GTATAATATA | TAAATATTA | TATTAAAGTA | TTTAATGAAT | 660 |
| | ATTATTTATTA | TTTATTTAAT | TATTATTTTT | ATTTAGTAAA | TAAATAAATA | TTTCCACTTA | 720 |
| | TTGAAATATA | GGTTCTTTNGA | TTAGAAATAA | GCNATNATAA | TGTNCCATTG | ACTATTAAT | 780 |
| 15 | ANTGTGCTCN | CNNGACTTCC | CTATTTNCCN | NGNANAANTC | NGAANATCAG | AANANAGATT | 840 |
| | CCNANATNTT | TAATNNNCCC | CCA | | | | |

1382RP

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|----|-------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCTCACAC | GTGACTAAAA | TCACTAACAC | CACGTGACTT | CGTGCACGTG | GCATCGTCCC | 60 |
| 20 | ATTCTGTGCG | TGGCTAGCAT | TCTGCCCGCG | CATCTGTGTC | AGGCCACTGC | GCAGCTGACC | 120 |
| | ACGCCGTACC | ACGGCAGGCT | TCACGACAGA | CGGCAAGCTC | AATCGCTATC | TACGGTTTCA | 180 |
| | GGTGGAAATTT | CTTACCGGCA | TCCGATTAAAT | TGCTTTTITG | GCTTCCTTTT | GCCCCCTTTT | 240 |
| | TTCCAGTGGG | TTGCTTCCTG | AAAACAGGGA | GCTAGCTTCC | CGTAGTACGT | AACAGTCGTA | 300 |
| | GAGGGTTAGG | CATCGCTGAG | CTCGAGACCC | GGTGAATCAA | TGTGCACAAC | CCTCGTCTGC | 360 |
| | GCAAAACGGG | CACGAAGATT | GAAAGTATCC | AGGAGTGCAG | CCCAGGGTCA | TCCGAGACAG | 420 |
| 25 | AATGGGCCAG | AAAAAGCGAA | AAAATGGACG | ACGCTTTTAT | ATATATATGT | AGCGAGGCCG | 480 |
| | GGCGTTCCCA | GAACGGGACC | CGACACAACCT | TGTTGTAGAA | TTTCTATCTG | CAAGGAATCA | 540 |
| | AATACAAAT | GGAATCTAGA | TTGGGATGGC | TAACCTGTTT | GAACACGAC | ACTGGTCTCT | 600 |
| | CATTGAGAAG | AACCTCCATCA | TCCGGACAAT | GGTCCFAAGA | CCAACCACCC | AGANACTTNG | 660 |
| | TGGANCTPAA | AAAGGNGGGT | TGAACATCCT | GAGAAATGAAC | TTCTCGCNCG | GTCCCTACAA | 720 |
| | TNCCACCATC | GGTGNTCNAA | NACCCNNAAT | TCGAGATTNT | NCCNGTTAAC | NTTGGCCTTG | 780 |
| 30 | CTTTGAANCC | AAGTNCCTGA | ATNAAATGTN | CCTNTCGAAA | NTTANTACCN | TCCCCTACCC | 840 |
| | AAANC | | | | | | |

1382UP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| 35 | GATCTATAAC | AGGTGCCAAG | TTGGCAGATT | TGTTTCAGGG | GCTCGACGAT | GTAGAGTCCA | 60 |
| | GTAGAAATGCT | CTGTAACCCC | AGAGCATACT | TTGCCGCAAAA | GTCTTTATCT | GTTGAAATCA | 120 |
| | ACTGGGGTAT | CCGCTTTGAT | GCTGTCCCGG | AGGTTGATGC | CTTTCTTGAT | CGCCTTGTC | 180 |
| | AGTATCTGGT | TGGTAAGCTC | AATGAGCTCC | GCATGACCAC | GTCCCATATT | GTTTTGAAAA | 240 |
| | TAGCACGCAG | AAGCAGGGAT | GCCCCCATCG | AACCCCCCAA | ATACTTGGGC | ATGGGTGACT | 300 |
| | GTGACAGTTA | TAGTAAATCG | TGCAGATTAG | GTCTTGCTAC | CAATATTCTT | GGGGTTATAT | 360 |
| 40 | CTGCAGAGAT | AAAGGCAGCT | TTTCGCATGC | TATGCTGCCC | CGCAAAGGAA | CTGCGTGGTA | 420 |
| | TAGCCGTTCA | GTTTCTTAAA | CTGAAGGAGG | CATCCATTTT | TCAAAATGCC | CGTCAGCTCA | 480 |
| | GGTTTCCATT | TGGTACAATC | AGACCTTTAA | CAACTCCAAA | GAATCGTATC | ACAGCGTCCG | 540 |
| | TTACAGAATT | GCCACCTGTA | GTTTATAAAA | GGGCCACTCC | TATTAAGGAT | TTTTTTGACC | 600 |
| | GGCACAGAG | GACTCAGATT | CACCATCACC | TGATTCACCT | ACATGATGTC | TGCGTCAGCC | 660 |
| | TTGTGCGAGT | CATTCTGGT | GGATTACCTA | CGATCTTGCG | GAAAAATCCN | AAAAAACATT | 720 |
| 45 | GACNATCTNA | AACCAGACTT | CTTTNTTGCN | ATTCCCAAAA | AAATTGGGNN | GNGCCNGGT | 780 |
| | TNNATCCCAN | CATGCCCTTA | AAATTTAGAT | CCTTGACCCT | ACTCCNANTT | GNTNCCNAA | 840 |
| | AAAAAACTA | TCAATGTNTN | CT | | | | |

1384RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| 50 | GATCTGCATC | GCGTCCACCG | TGGACTGGGC | GGTCGTGGGC | GGTCACGGAA | AACCTCGGGG | 60 |
| | ACTCGGTGAT | GGTGCCGGCA | AGCGTCTCGT | AGCGGATGGG | CACGACCTTC | GCAAAGTAGG | 120 |
| | AAAAGAAAGTG | GCTATGGCCG | TTCCGGAACCT | CCATGGCGCG | GCCATTGAGC | GGCCCGGGT | 180 |
| | TGCCGGCAAT | TTCGGGCCCC | AAGGAGAGAC | TATGGATCAC | GTGGTTGAAG | GAGAGATGGG | 240 |

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|----|------------|------------|-------------|------------|-------------|-------------|-----|
| | GGTGTTCCTT | GTAGAAGGAA | TGCTCGTGGG | CGTGGCCCTT | GCCAACGTGC | GCAGAGCCCG | 300 |
| | GGGCGAAGTG | AATGTTCCCG | TGAACGCGGT | TGAGCTGCGC | GGTGCCAGCG | ACGCGGCATC | 360 |
| | CCTCGTTGAT | CTGCTCCTGC | AGGCGCTCCG | TGTAGCCCTC | GCGCTTGCAC | TGCTCAAAGC | 420 |
| 5 | CTTTGCCATC | GAAAGTGGCC | CAGTTCATCT | CTGCGTACGC | CGCGCGCACC | TCCCCGCACG | 480 |
| | TCTGACAGCA | CACGCGCTCG | CTGCGCGGCA | GGTTCTCGTT | CTGGTCCCTGG | TGCGGTGCGC | 540 |
| | CATACACGGC | CACAGTAGTC | TTGGTCCGTCT | GTAGACGGCA | ACGTCTCGCC | ACTCGGAATT | 600 |
| | CCTCCTTCCC | CACGTCCGTC | CNTGTTTGTC | CACCNPTTTT | CCTTGATCCT | CCTCCAAACNA | 660 |
| | ATTCACTGTG | CTCCCTGTTT | TCNTANNTC | CATTTCAATC | TCCCCCGGAT | CTTGCAAACCT | 720 |
| | TATATCNAAC | CCCACTCCNC | TCTGCTGCCG | TCCTTCAANC | ACTGNGCGTC | TCCCTCCCCA | 780 |
| 10 | NTTCCCTCCT | ANCAANACN | CGTTCACAAC | ACCNCTATN | CCT | | |
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| 20 | | | | | | | |
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| 35 | | | | | | | |
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1384UP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCACTTTG | TTTGTGTCTG | CACGATAAAAT | GGCCTCGGTA | CAGAGTTTFA | CGAGTGTTC | 60 |
| 5 | TTGGCTGAGA | CCGGACAGGT | CAATCTCAGA | GTTTTTACTA | TTCATTAGTG | AGTAGATTGA | 120 |
| | CGCGTAGTTA | TTATCAAAGG | CCACCGGGGA | ATTGTTAAAG | AAGTTGGAAA | CAGATGATTT | 180 |
| | CGACATGGTA | TAGTTCTGTA | GCTTAATTAG | AACGGGACAG | TCTGAGCTCT | CCGCGACGGG | 240 |
| | AGTACTGTTT | TGAATGGGTG | GCACAGCCAG | TGGCGGTGGG | GGCGTGACCA | TGCCAAGCTG | 300 |
| | TGCGCCCGCT | GTCAGGCCCG | CTGGTACTGG | AGCCGGCACG | CTTATCGGCG | GGTCTGCTGG | 360 |
| | TGTCGGCGAT | TTGGAAAATAC | GGTTGTTGCA | CGCTGCTAGG | TATTTTTCGC | GCTCCGCTGG | 420 |
| 10 | GCTCATCTTC | TTCTCGGTCA | AAGCAGGGTC | GAAGTTCAGA | ATACCCCTTAC | TCTTCGTCTC | 480 |
| | CTCTGCAATC | ATGTGCAACG | TTTGCGCGAT | CTTCCCCAGC | TTGTGGTGAT | AGGGCGCCAG | 540 |
| | GTCGCCCGAG | TTCCGGATCA | GCTGCGCTTT | CATGCCAAAG | TTAACGAAAT | TCTTGTAACA | 600 |
| | GCGTTCGACG | CAGCGCTTCC | CAAGCGGTAC | CGCAGCGCAA | ATCGTTTTC | TGCTGGTACT | 660 |
| | TGTTGTCTAT | ATTGAATCNA | ACAGGCCCCC | CAATAANCTT | GTCCACCGGG | CCCCGTTTCT | 720 |
| | GANNAAACCA | GCATCACACC | GCNAAAAAAC | GGGCCCCACN | CGTCGTCTAT | NAACTTACCC | 780 |
| 15 | CTCCAGACTG | NNTATCCANN | GCATNCNCCT | TTTTTNTCCC | GTGNTCTGA | AANTNCNAAG | 840 |
| | CCCCCACCT | | | | | | |

1385RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 20 | GATCGACCTC | GTCATCATGG | GCAAGCAGGC | CACCGACAGC | GACAACAACA | ACACCGGGCA | 60 |
| | GATGCTGGCG | GGCCTTCTCA | ACTGGCCGCA | GGCCACCAAC | GCCGCGCGTG | TTGAGCTGGA | 120 |
| | CGCGATGGC | ACGCGTGCGA | CCGTACGCG | CGAGGTGAG | GGCGGCGAGG | AGGTGCTCAG | 180 |
| | TGCCGCGCTG | CCACTCGTGG | TCACCACGGA | CCTGCGGCTC | AACACGCCGC | GCTACGTCAC | 240 |
| | GCTGCCCAAC | AAGATGAAGG | CGAAGAAGAA | GCCGATGGCG | AAGCTCAACC | TCGCGCGGTT | 300 |
| | CCCGGCGCTG | GACTCGCGG | CCCGCTCAA | TCTGCTGCG | TTGAGGAGC | CGCCGCGCG | 360 |
| 25 | CGCGCCGGG | ACCGTCTGCG | CGTCCGTGGA | CGAGCTGCTC | GCCAAACTCA | GGGAGGCCAA | 420 |
| | GGCCGTTTAA | CACCTATATA | AACCTAACAG | CCCTATTTCC | TCCGCGGACG | CAGCGTCCCG | 480 |
| | CTCTCCAGCA | GCCCCGGCGG | CTGCTTGCGC | AGGTACGCT | GCTCGTACCA | CGCTCCAC | 540 |
| | TCCCCGCCCT | GCGCCCGCGC | CTGCTGTACG | CTCTTCCAGC | ACGCGCGCGC | ACTCCTCGTC | 600 |
| | CCACGCCGCG | AGGTTGCTCC | CCCGGTGCGT | GCCGCCGCG | CTATCTTGCA | ACNCCGCCAG | 660 |
| | CTTGCGAGTT | CGCCCGCCCC | CCCGCATGT | NNCCCNCCAA | CNCNTTTTFA | CACNGGATNT | 720 |
| 30 | TNCCCNNTTG | TTNTCCNTNN | NTTCCNCCCC | GTGGAANTGN | TTTGCCNTTG | CTTGANAATG | 780 |
| | CTANCCAAAC | CCCCAATTTG | ATNGNGCCCC | CCCAAATNA | ACTTTCCACT | TTGCCGAGAC | 840 |
| | CCCGCCCTGT | NCCCTTNTTT | AA | | | | |

1385UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCCTTGAG | GGCTGGTTCC | TGGGCTTCGA | GCCCGCGGCC | GAGGCCGAGC | TCGCGCGCGC | 60 |
| | GGCCGGGACC | TACGGCGCGG | CCGCGCTGCG | CGAGGTCAAC | GCGGCGCTCG | AGGACTACTC | 120 |
| | TGCGTGTCTG | TGGCGCGCGG | CTGGCGTGCC | CTCGGTGCGC | ATCGTGTTCG | ACGCGCAGGT | 180 |
| | TGCGGAGTGC | GTGGCCCGCT | GGCGCATCCA | GCAGGAGCAC | GAGCTGCGCG | AGCGCTGCGG | 240 |
| | CGCCGGCATG | ACCGACGCGC | AGGTGCACGC | ATTTCTGGAG | CGCTACCTGG | TGTGCTACGA | 300 |
| 40 | CGTCTACTAT | GCGCGTCTGG | TGCGCGAGGG | GCTCGGGAAC | CTGCACCGGC | TGACTGTGGG | 360 |
| | GCTGGACGGA | GACCGAAAAG | TTACGTATGT | TAGCCAGAAG | AATATGTAAT | GCCGAGTCTA | 420 |
| | TAGTTCTCTG | TCCGAGATGT | CCTCCCAGGG | GATGAGATAG | CGCGTCTGGT | GCGCCTTGTC | 480 |
| | GCGCGTGC | GCGCGGGG | CCGGCGGCGA | CGCGCGTGG | CGCGGCGCCA | TGCTGGGCGG | 540 |
| | CGGCGTGC | GGCAGCACGC | TGCCGCCGAG | CTCGTCACTG | GGCGCGCCAG | GAAGGCCTCC | 600 |
| | GTCTGCGCCT | GGCGCGCGCT | CAACGCCTGC | AGTCGCGCGA | ACGCTGCCCA | NCACGTTCTG | 660 |
| 45 | CGCGNGTCC | ACTGCNCGGG | ACTTNTTAAA | CACCTCTGCT | TTCTTGAAT | CCTTGAACNA | 720 |
| | NCGCNGTTGC | GCTTTNCNAC | TNTNATGANC | CCCCCAAACC | CCTNTTTGNG | GGCTGCGGGC | 780 |
| | NCCCCGCCCC | NNNNCTCTCG | CCNGGTTNNG | TGTCCTTNAC | CCTNCCCCCT | TNCNTTAAAC | 840 |
| | GTNTANNTTN | N | | | | | |

1386RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| 50 | GATCGCACGT | CATTTTACCT | ACAGGCTGGG | CTTTTGAAGA | AGACGCCTGC | ATGGTACAAT | 60 |
| | GTCGTAGCCA | GGATCCCACC | TGTGACCAAG | TTCCGCCAGAG | AACCGAAGCT | GCATGACCCA | 120 |
| | GTTAGCGGCA | AGTACAAGGG | CGAGCTGGAT | ATAATGACGG | ATAGATTAAA | CAGAAACACA | 180 |
| 55 | GAGACGTACA | AGACACGCGC | TGGGAGTTCC | GACCGGCAGA | CGGCCGCGGT | GCACAAGCCT | 240 |

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | TCTAAGCTGC | GGTTTATCGA | GGACAAGCTG | CGGTGCTGT | TTTTCCAGCA | GCATCCCTGG | 300 |
| | GAGCTGTCCG | GGCCGAAGGT | GCTGGTGGAG | AACATGGGAA | ATGAGCAGTA | CGACTGGTCCG | 360 |
| | CGGATGTTGC | AGCTAGGCAA | GCCGCTTGAC | GGTGAGTCTG | TGGTGCAGCG | GACGCTGTAT | 420 |
| 5 | CTGCTGAAGT | CGGGCGCGCA | CCGGGAGATG | CTGGCGGCAT | ACGACCAGGC | GCGGTTTGAG | 480 |
| | TTCTATCGTC | TGAGGATGCA | GCAGGAGCTG | GAGGAGCAAA | TAGCGTACGA | GGAGGCCACG | 540 |
| | ATGGTTGGCG | CTGTGTTCAA | GACAACCGCT | GTGGAGCACG | GTCTGCAGCA | AGAGCAGAAG | 600 |
| | GTCTCGACA | GTGGAAAAGAA | GACTTTGTTG | CCGGGTTTGC | CCTGATTTTT | GCNAAAAAAA | 660 |
| | ACTCTACAAA | GCAGTCCNTG | GGCCNAACCC | ACCGAAGAAA | AAGAAGAACC | AGGACNNTGC | 720 |
| | CGAACCENAA | GACNCCACCT | GTGNACTCCN | TTGCCAACTT | TGTTATAAAT | TCTTACNNTT | 780 |
| 10 | TTATTCCCTT | NGTACAATNC | NANNTACTGT | TNTGTGCCAT | CATGTGCCCC | AACAGGTTCC | 840 |
| | CCCCNFTGGA | NAAANGC | | | | | |

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1386UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCATGCC | TCGTTATAAC | TGAGCAGAAG | TGTGCATGCG | AACAGAGGCG | TTTCCTTGTT | 60 |
| | CCTTGCCAGT | TCCCCCATTC | CCCAAGTTGC | ACTGCAAAAT | GTGAATCATT | GATGTCTTGT | 120 |
| 5 | CGTCGCCATC | GGTGCCTGA | AAGATGCTGT | TCCGGTAGAC | CGCATTCTGT | CAAGCGGAAC | 180 |
| | TCTAGGCGGC | GCCGTGAGAG | TCCAGATGAT | GAATCTGAAG | TTGAGGCCCA | GCACGTGTGC | 240 |
| | TTAAAAGATT | GTAATCGGGT | GCTGCTTTGT | GGTATCCACA | TGTGCAATTA | CAAATGCCAT | 300 |
| | GCAGGCAAT | GTCTCCCTG | CTTAGAATCA | GATTCCAATG | ACCTTATCTG | TCCCTGTGGT | 360 |
| | AAGACAATCG | TACCAGCCCC | TGTCCGTTGT | GGAACAAAGC | TCCCTCGCTG | CACTCATCCA | 420 |
| | TGTCGAAACT | CGCTGCTGGA | TACTTGGCCC | TGCGGACACA | GTCCACCTTC | GCATAATTGT | 480 |
| 10 | CATCCCTTAG | ATGAACCTTG | CCCCCATGTA | CCATCACAGT | CAAGAAAAC | TGTCGCTGCG | 540 |
| | GTAAAAACGA | GATCAGGACA | TTCTGCTACA | ATGATGATTG | TCGTGTTTGA | GACCGTGTA | 600 |
| | GAAGCCATGT | CCTATTGCAA | TCACCTCTGC | CAATTNCCTG | TCATTCCGAT | GGCAATGCCA | 660 |
| | GCAAACTTGT | TAGCAAGCCT | GTGGTCNACC | ACCGAAAGCC | GCACNTGTTT | GTTAGCGGAA | 720 |
| | TGCTTGGCNT | NCGNATGCC | GAATCCCTGT | NCNAAAAAA | AANCNCCGTC | CGTTGTCCAT | 780 |
| 15 | CNCCACCAAT | NTGCTGATT | TGCTGGAAGA | GAANGTTCCG | ACACNCCCC | GTCTGNAAG | 840 |
| | AATGTGCAAT | CNNCGN | | | | | |

1387RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAACCAC | TCGTGTGCCT | ATACATAGGA | ACCAAAAAGC | CTTCTGGCCT | GGTCCTCAAG | 60 |
| 20 | TAGTATTGTA | TAAGTTTGA | ATCCTTGTAC | GCGGTTGCCT | TCCGCGCACC | TTTCATATTT | 120 |
| | TCGGTAAAG | CCTCCACAAG | GTTCTTATCT | TTATCCTTGA | AGTTGTCTCC | ACAGGACTCC | 180 |
| | CACAAGAAGC | CCCCAGCAAG | CTTCTTATCT | TTACAGTATT | CCTTCTTTAT | TTTCATTGAA | 240 |
| | TCCACATTGT | CGTAGACGAC | AAGAGTTTGA | GTATTAGGAT | CGTAGCTATA | TGCAGAGACC | 300 |
| | CAAACATTGT | CAAACCTCTC | TGGGCCGTGA | GCTAGCGGCA | ATTGGTTGTA | TAGCCACATA | 360 |
| | CCCGGTTCCC | CTTCTGATCC | TCCGCCTACA | CCAGAATATT | TCTGGCCAAT | TAGTTGTTCA | 420 |
| 25 | CCATCGCCCC | GAACGTTGGT | GAAGCCACGG | CCATACGCTG | CCATGCCGAG | TGCAATTTTT | 480 |
| | CTTGGGCTGA | CCTTAAATTG | TTCCGGTCATC | ATGAGTATCG | CATCATGTGC | ATTCAACTCA | 540 |
| | TCAAAGTTGT | CAATACCCAT | ATCTTCATAC | CGACGCTTAT | CTAGGTGCGA | TTGTACGGCG | 600 |
| | AATTCGTAGC | ATTGTACAAG | TTGCTATGGT | AGCCTGTTTC | CTCTGACCAT | GCACCGTGGT | 660 |
| | ATCGTATGTC | ATCATATCCN | CATGCTGAAA | ACTGTTCACT | CNCAACCGGA | AATGCAATNT | 720 |
| 30 | CTGAAGAAGC | NGGCTGCCAG | CTTNATTGAA | CCGTCTGTIN | TCCCCGGGCC | CNANATNTTT | 780 |
| | CCATCTCNNT | GTTNGCAGCG | GTNCTTTTNA | AAACTGGNTC | GNNCNCACCA | | |

1387UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| 35 | GATCACCACA | ACACAGAAGC | ACGCAACGCT | ACAGGACTTC | CCTGTTCTTT | TGCTTGACACA | 60 |
| | CGTCCAGCCC | AGAGGACGAT | TACACCGCCG | TCAGGGTTTC | CTAGTCTCCG | GCAGCACAGG | 120 |
| | CTCCTTATCA | CATTTTGCAT | TTTCACGCTC | GCACATGTCA | CAAATAACCA | AATACATCCC | 180 |
| | CAAAAGCACG | CTTTTCTCT | GCCCGTTCTT | TCTCATCGCG | TCAGACTTCG | TACTCGCTAT | 240 |
| | GAGCGGCAAG | GGCACGCGCG | CAGGGAGCTC | ATCTACAGGC | ATCGGGTCCG | GGCCACGCG | 300 |
| | TCTGCAGCGG | CTGCGGCAGC | TCTAGCGCA | TCGAGATCCG | GCAAGAGGCC | CGTCAGGTGC | 360 |
| 40 | ACTTACGAGC | ATCGAAGAGT | TTACTAGGAG | ATGACAGCGC | CTGCACGTCC | CTGAGGCTAG | 420 |
| | CCTCCCAGGG | CGGGCGGGCC | GCTTGGTATA | GGGTTTACAT | AGCAGAAATG | CACGAATATT | 480 |
| | TGCTCTAGGC | AATGTCAGGG | ACGGAAGGGG | CTTCATGCGA | AATCCTTGCA | CCGCCGGGTG | 540 |
| | CCGTATATAA | GGTGACGCAG | CTGCGCAGCT | GGGGCGGGCA | TGCTAACCCAC | GACAGGATGT | 600 |
| | GGAGTGTTGC | GCGATTATAT | ACGACAAGCC | GGCGTGACG | GTCGGTGAC | AGGCAGGACA | 660 |
| | CCTGGCGGAA | ATCCCAANTC | GTTGAACAAG | GGAACTGGTG | CAGCNGGCGC | AATCTACAAG | 720 |
| 45 | AGTTGTTGAN | GGCGGCGGTC | ACATTTGCCG | TTNCACTGAC | CCTGTCNCGA | TCCANGAAGA | 780 |
| | GGNCTGGCAT | NTCCCANAAC | CTCCCCACAG | CTGTNGACTT | GAACTCNCGC | CTACCTTGAT | 840 |
| | TTGCANNCCA | GAAAAAN | | | | | |

1388RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCCACCCA | AATTCGTCTG | TGCTGGACCA | GCTTTCCCAA | CAGTCTCCGA | GGTAATCAGG | 60 |
| | CTACTGCGTT | CCTATTTTAT | GGCCTTCAAT | AACTCTTTAT | ACTTAAATTA | GACGTTAACT | 120 |
| | TCCACATCCG | GTATTTTTC | CATCTGAGAT | ACTGGCAAGC | ACGGCTAGCT | TTAGGAGAAC | 180 |
| | TGTATCCCAT | GACTTGTGGA | CAGGGGCTTT | ATGAAAAAAC | GCCTGTCCGT | GTAAGGATAT | 240 |
| 55 | AGAAAAACATA | CTGAGATGGC | TTTTGTGTCT | GAATCAGACA | TTCTTAGGTT | ACATTTTGGG | 300 |

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|---|-------------|------------|------------|------------|------------|------------|-----|
| | CCTGGCTGTA | CAAGGCACTA | ATATGAAGAT | AGAGTTATAG | CGCGTGAGAA | GGAAAGGCTC | 360 |
| | CACTGGGTGT | TGCATGGGAT | TTGAGGGTCG | TGATAATAAT | GCCAGGCAAT | CATATAGATT | 420 |
| | ACCACGAGGG | AAACATCAAC | GCTATTTAAG | GTCATCCTTT | TTGACATCTG | TCGAGGAAGT | 480 |
| 5 | GCGAATAGCT | GTAAGCGCAA | CTCTACAAGA | TGCCGCCGTC | TCCAAGACCA | ATGCTAAGCA | 540 |
| | CCACAACCTCC | AATGACCTGA | TTACTGGGGA | GCAATTCCGT | CCTCGAAAGT | TGGCACGTCG | 600 |
| | ACTGACTGGT | TTTCTGCCCA | GAGATCAATC | NATTGATCCN | TNATCCCTTA | CATCNCCGGA | 660 |
| | CTTTNGAAAA | CCCAAATTAA | AATTCCGNAN | NCCAAAATCC | NGGGATTGNC | CACCCTTGAA | 720 |
| | CTACCCACNC | GGCCCTATTA | TTTTATAATT | GCNNACAANN | CCCGATCCCC | CGNNAACCGN | 780 |
| | GTAAANCGAA | AACCCCCCGG | NNTTCGGACC | NNCNTTTTNC | T | | |

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1388UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCAGCGG | CTTGGTAGCA | TGCTGGCCGA | GGAGTTCGGC | TGTTCTGGTT | TTGCGCGCTG | 60 |
| 5 | AGGCTCACTT | ATAGGTGCCG | ACTTCGATTG | CCACTTGTGG | CCAAGACTTG | CTTCTTTACA | 120 |
| | TAGCTAAATG | CCACTGATCA | TATAGACTGC | TTATTCCTGC | TTAACTGCCT | CAACGTTCCA | 180 |
| | TACCATCTCC | GCGTAGTCCT | CTATGCAGCG | GTCACCTGCTG | AAGAAGCCAA | CGTTGGCGAC | 240 |
| | GGACAGGATC | GACTTCTGGA | GCCAGGCCCG | GCGGTGCGCG | TGGTAGACGC | GGTCAACGAG | 300 |
| | AGCCTGGCAG | GCTATGTAGG | AGTCGAAATC | GTCGCTCACC | AGGTAGTAGT | CCCCGTGCTG | 360 |
| | GGCGACGGAG | TCCACCAGAG | GTTGGAATTC | ACGCAGGTCC | TGAGGGGAAA | ATGCGCCCGA | 420 |
| 10 | GGAGAGCGTC | TCCAGTACGC | GAGCAATGGG | GGCTGGCAAC | TCTTGGCGGT | GATACCGGTG | 480 |
| | CCGGTAGCGG | AGGTCTTCGA | CATCTTCTGC | GAGATTACCA | AAGAGGAAGA | TGTTGTCTTC | 540 |
| | GCCGATCTCG | CGTGTGATCT | CGACGTTGGC | GCCATCGACG | GTGCCGATAA | TGAGACACCA | 600 |
| | TTCATAACGA | ACTTCATGTT | NGAATTCCCN | GAACCTCATT | ACCCGCTGTC | AAANGTGCTC | 660 |
| | ACTAATCGGA | ACNCGGANAA | TATTCGCCCG | GAANATGTAT | CCCGAATGAA | ACCCCTCAGA | 720 |
| | AATACNATCC | CTCTCTTANA | CACNGCCCN | TTATTACCTA | TATNGCTGCC | NTTTTACCCG | 780 |
| 15 | GCCCTTNCCC | CNAAAANACC | TTGAGAAGNC | CCCTNTNTN | GGNNCCCGTN | CCNTTTTA | |

1389RP

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|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCTTCTTT | TTGAAGCCCA | CAGACACAAA | CTGTGATGGA | GTGCTGGAGA | CGCCAGCTTT | 60 |
| 20 | GGACGACTTC | CTTTTCTTAG | ACCGGCGAGT | CTTTTCTCTA | GGTGTATGTC | TTTCCTTGGT | 120 |
| | GCCGTGTTTG | CTCACAATTG | CCTTTAGCTC | TTGACGACA | ATCTTTGTGG | ATAACCTTTG | 180 |
| | GCCATCTAAT | GAGCCCTTTT | CAATTGCACC | TTTGATCCAA | CATCTTCCAT | TCCAAACGAT | 240 |
| | ATTGGTCAAC | ACCAACATAT | TAGTGGAGTT | ATCTTTCCCC | CATGATAAGT | AGAATCTGGT | 300 |
| | ATGTATTTCA | AACGCACCTC | CCGAGGGTAC | ATCTGGCGTC | TTGCTTATCT | GCTCCACTAC | 360 |
| | TATGTGAGAG | TTACATCGC | AATGTAGGAT | TTTTCCTGG | ATCAAGCATC | CGCTCTGCTT | 420 |
| 25 | AGGACCAACA | GGATTGTTTA | ATGGCTTGAT | ATATTTCATAT | TCCCTCACAT | TATCTGAGAA | 480 |
| | TTCAGACGGT | ATAGCTGAAA | TATTATGATT | AGCCTGTTTT | TCTAATATCT | TTTGCAAGTA | 540 |
| | GGACGTGTCC | TCACCAAATA | ACAGCTTGTA | CACGACACCC | AATGGTGTCTG | CGATGGAATC | 600 |
| | GAATCATCAA | CAATAACATC | TCCTGGTTGC | TCGTA TAGGT | GTTCTTCGTC | GGAGGANGCT | 660 |
| | ACTAGGGCGA | TATTTNGTAA | TATTAAAGANA | CANTTGTGTA | CTGTTNGAAC | TGCCNCGTAC | 720 |
| | TTGATTNTAT | AAAACCTCNN | AATGTTACCG | TTCNACNCTT | TNGAGANTTN | ANCCCTCNAA | 780 |
| 30 | TCCNTTCCNC | GTGANTTTNC | ATCTCCCCTC | NTCTATACTG | ATACNT | | |

1389UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCGTGCG | ACTTTCAACA | TTGTGAACGA | CTTCACACCG | GAAGAAGAGG | CTGCCATCCG | 60 |
| 35 | CCGTGAGAAC | GAGTGGGCGG | AGGACCCTTA | GCCACGGCCC | GCCTCTATGT | ACCATAAGTA | 120 |
| | GCCGATATCT | ACCGCTGCCG | GCGCGGGCCC | CGCCCGCGCC | ACCGTTGCGT | GCCAGGAGCT | 180 |
| | GGTCTGCCGA | CTATCCGTGC | CAACGTACGA | AACGATGCTG | GTTTATGTGG | TCCGCCCCGC | 240 |
| | GCTGGTTACA | ATTAACCGCC | CCAGGTCAATC | GGTAGACGGA | GCTAGCTACT | CGTTGTCTCT | 300 |
| | TAAGTGAGTT | AACGCACAAG | GGGAACTATT | CGTGTGGTCA | GGCAGCAGAG | ACGCTGCAGG | 360 |
| | ACATACTACG | AGTTATTTCT | CATAACTAAA | CATTTTGTGA | ACCTTTGTGT | CGGGGGCCAG | 420 |
| 40 | GTCGTTTTCG | AAAAGGCGGC | GGAATAAACA | GGGAGGAGAG | GTAGATGCTC | TTCTCAGGCA | 480 |
| | GAGGCTAGCA | AGGATGGCAG | AACAGCGGAA | GCGGTGCGCG | TCGCTCAGAG | AGAGCGCGCG | 540 |
| | GGCACTTTTC | AAGAAGCATA | CGGGGGAAGG | GGCGGCGGAA | GGGGCGCGCG | ACAGTGCCAA | 600 |
| | AGACGGTTAC | GACCCGAATG | GGGAACCGCG | GANC GGCC | GAGCGGTNAT | TTCAAGTTGG | 660 |
| | CGCNGGGAAG | GCCCGANTTT | NAAACCGGTG | TNTAGACAAA | AACTTGTCCA | GTTNCNACCC | 720 |
| | GTNGTTTACC | AANNNNNNAA | TCTCCNCCCC | NGGGTNGGTG | GCCNGAACCC | CCNCTGGCTT | 780 |
| 45 | ACGGGGNCCA | CATCTCTCCC | CCCCCTCCCA | TTAAANACCC | CGNCCNCTTT | TNTCTGNCC | |

1390RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCAAGTAA | TCAATCAGTT | AATAATATTA | AGAATATAAT | ATGTAGACAT | TTAGTCTAGT | 60 |
| 50 | CTATTAATTA | TTAATTAATT | TGTAATTTGT | TGTTAATTTG | TTGATATTTT | ATTGATTTTG | 120 |
| | TTGACATTTT | GTGACATGTT | TGATATGTTA | TAAATATATA | TTTAATATTA | TTTATATATA | 180 |
| | TTATTAATTA | TATCTAGTCA | TAGACTCATA | TAAATATGAA | TATATTTCCAT | TATTAATTTG | 240 |
| | TTAGGATAAA | CATAAATTA | TATAATAACT | TATTTTTAAG | TTCAATAAAT | ATGTTTCATAT | 300 |
| | TTATATGATT | AATTCATAAC | GTATTCGATA | TAAATATCTC | ATACCTTTT | ATGAATTAAT | 360 |
| 55 | TAAGCGGTAT | TAAATTATTC | TGATTGGATT | AAGTTATTAT | TTAATTTATG | TTCTTAACAA | 420 |

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|---|------------|------------|-------------|-------------|------------|------------|-----|
| 5 | TTAATTGATT | CCATAAATAT | CGATATTTAT | TATTATTTAT | TAAAATATTA | ATGATAATAT | 480 |
| | TGTAATACTT | CAATTATTTT | ATCAAAATGGC | AAGTAATCTA | TTAATCNTTT | AATACGATTG | 540 |
| | ATAAGAAAGA | AAAGAATATC | ATCTATCGTA | TAATATATTT | CAAGTATGAC | CTCTTCAATA | 600 |
| | TAATTAGAAG | TTTAAACTTG | TAGAGAATTA | AGAAITTTAAT | ATGAGTCTTA | CATTAAACCT | 660 |
| | GATATGAACC | TTTAATCTAC | TTATTTGTTT | AACCGTTGAA | GAGAGAATAG | TTAATCTNAG | 720 |
| | TATNACTTAT | ATATTGATAC | | | | | |

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1390UP

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|----|-------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCAAACTA | AGAAACCTAA | TAAACTAATA | GAACCTATTA | GATAAAATTAT | AGAAATTTCA | 60 |
| | CCAAATACAG | GTTTTTTAGA | ATAAGTTGAT | ACAAATATGTG | ATATTATACC | AAATAGTGGT | 120 |
| 5 | ACAAATTATAA | TATATACTTC | AGGATGACCA | AAGAATCAAA | ATAAAATGTTG | ATATAAAATA | 180 |
| | GGATCACCAC | CACCTTGATC | TTCAAAGAAT | GATGTATTAA | AATTTCTATC | TATTAATAAT | 240 |
| | ATAGTAACAC | CAGCTGATAA | TACTGGTAAT | GATATTAATA | ATATAACAGC | AGTAATTAAA | 300 |
| | ATTGATCATA | GAAATAAAGG | TATTTTATGT | AAAGTTATAC | CATTAGTTCT | TATATTTAAA | 360 |
| | GCTGTAAACA | TAAATTTAAT | AAGTCCCTAAT | AATGAAGAAA | TAGTAGTTAA | ATGTAAAGAG | 420 |
| | AAATAGCTA | AATCAACAGA | AGCACCAGAA | TGTGATTGAA | TAGAAGATAA | AGGAGGATAA | 480 |
| 10 | ACAGTTCAAC | CAGTACCTAG | ACCAGATTCA | ACTATAGTAG | ATGTTAATAA | ACAAATTAAT | 540 |
| | AGTGGTGGTA | ATAGTCAAAA | TGAAATATTA | TTTAATCTAG | CAAAATGATAT | ATCAGAAGCA | 600 |
| | CCAATTATTA | ATGGTAAATA | ATAATTACCA | AAACCACCAA | TTAATATAGG | TATTACTAAA | 660 |
| | AAGAATACTA | TTAAAATAAG | ATGTCCAGTA | ACTAATACAT | TAAATAATTG | ATTTTGACCT | 720 |
| | TGTAAATATT | GTTGACAGGT | GCTGATAATT | CTATTCTAAT | AATAAATGAT | ATA | |

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1391RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTTTTTG | CTCCAGGTTA | TTCCCTTCTT | GGACACATTT | ACGAAGTGTA | TTTTCAAGAC | 60 |
| | CTGACTCGCG | CATTTAGGTG | TTACGTTAAA | GCCTTTGAGC | TAGATGCCGG | CGACCTCGTC | 120 |
| 20 | GCTGCTAAAT | ACATGGTGGG | ATACGTATAGT | GACCTGTGCA | ATTGGCAGGC | GGCGGCCAAC | 180 |
| | ATCTGTGACC | GTGTAATCAA | GAATGATATG | CATCTCAATT | CCGTCAACTG | GCCGTACAGA | 240 |
| | GTCTGCGGTG | TTTATTATTT | GGAGCTTCAA | CAGGAGGCTG | AATCGATCGA | ATGGTTCCAA | 300 |
| | TCTGCTTTAC | GGATTGATTC | GTCTGATGTT | GAGGCATGGA | TAGGCCTGGG | ACAGGCGTAC | 360 |
| | GCCGCAATGT | GCAGAATCGA | AGCCTCGATC | AAGGTTTTTG | AAAGGGCATT | AGAGCTGTCT | 420 |
| | CCAGAACATA | AGTATGCAGG | GTTATTCTCT | GCTATATCAT | TATGCCAGCT | TTCAGAAATTC | 480 |
| 25 | GAAAAAAGTC | TCGAGGCCCT | GAGAAAACCT | GTGAATAAGT | ATCCACAAGA | AGCTATCTTC | 540 |
| | AAAGAAAGAC | TAAGTGCAAC | GTTGGTGGAG | CATGCTTTGC | AGTTCTTCGA | CCAAGGTTAC | 600 |
| | CTGATAAAAG | CGGCAACTTG | CGCTGCTGAG | GTGATATCGA | TCATAGAAGG | CATTGTATCT | 660 |
| | GAACAGGTAG | AATATACAAC | CAATATGTGG | ATTACTTTAT | CAAAGGCTTT | GAATATTTTT | 720 |
| | ATTTCCACGC | GTTCTCAGTT | CGACAACCT | | | | |

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1391UP

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|----|-------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCGCCGCG | CAGATTGTGC | AGAACGTGCT | TGCACTAGGG | TCTCTTACGA | CAAAGGACTA | 60 |
| | CATGCAGTCG | TTGGCTTCCG | ATGTTTCTGT | GAATGATGTG | GCGTCCATGT | TTGTGAAGCT | 120 |
| 35 | GGTTGAACATA | GGCTTTCTGG | TCCCGCTTTC | CAACGTGCAC | TACATGCCAC | TGGCCGATCT | 180 |
| | ATGGGATGTG | CTCTACAAGA | AGGAATACAA | TGCTATTCCA | AAGAATTCTGA | CGTTGTCAGA | 240 |
| | TGCCAAGAAA | CGTGCAGAAA | CAAAGGCCGAA | GACGAAGGTT | CAGTTCAATA | CGTTGCTGAA | 300 |
| | GAATGTGCGAA | ATGAGCAACG | TACTAATGAC | TGATATGCAG | ACTTCAATGA | GACGTGTCCA | 360 |
| | AGACAATCTT | CCTTAACTTC | TTAACTTCGG | CCGCTACATG | AAGCACCGGC | GTTCTCGGCA | 420 |
| | GCTTGATACAG | TTTGACACGTT | CCCGTGTGGG | GAGCGTACCA | GCCATGATCT | ATAAGGTGGC | 480 |
| 40 | ACTGAAGATA | ACCGAACAAT | GTGCCCCTGC | GCTTTTCAGAT | CCGCTATGTG | AGACAGGCCT | 540 |
| | AATGCAGGAA | CTTGAGGAGC | AACCTGGCTAT | TCAGGAAGAT | ATGGCGCTAG | ACGATGAGAA | 600 |
| | GCTACCGGGC | GTTACATTCA | ATGCGGTGGA | CATATCCAGA | AACCTACCAA | ATAACATGGA | 660 |
| | CCTACGTGGC | ACACTGACTT | CTATGCCAAG | AAGATCACCA | GAACGTTGCA | CGCACCAAGG | 720 |
| | TCAATCCCAT | AAGCGGNTGA | AGGCTGAAGA | TGGGATGGCT | GTAGCAG | | |

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1392RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCCCCACC | ACCGTCAACC | GCGTGCCCCG | CACCACCCGG | TTCGTGAGGT | ACCGGTGCGA | 60 |
| | CGTCAGCAGC | AGGTTGCGCG | GCATCTCGCC | GATCGGTACG | GACTCCGGCA | CCTCCTGGAG | 120 |
| | CTTCAGGAAC | TGCTGGTCTA | CGAAGCGCGA | GCTCTCGTGA | ACGATCATGT | ACGGGTCTCT | 180 |
| 50 | GCCGCAAGGG | TTCCCGCGCG | CGCTGCCATC | GTCAATCGAG | TGGTCTGCCA | GGCAGCGCCG | 240 |
| | CGGTAGCGCC | ACGTTGCTCC | CCGCAAGCGA | CTGGAAGTTG | TTGAGGTCCA | GCGCGCTCGT | 300 |
| | GTGCCGGCAG | TTGCCGGCACA | TCAGCGCAAC | GTGAGTCGCA | CGTGAAGTCA | GCACCGACGT | 360 |
| | TGACACCAAG | ATCCCGCTCA | GCCGCACCAAG | CCGCGAAACG | CTCTGTGAGT | CCAGCTGCCG | 420 |
| | CAGCGCCGTC | TCAGCGCGCG | CGCTCTGCAG | CTCCACCTGC | ACCGCGCGCA | GCGCGCCGCG | 480 |
| | GTCCTCCGCC | CGGAGCCGCG | CCATCCGCGG | CGCTATTTCC | GTCACCGCCT | GCTCAAAGAG | 540 |
| 55 | GGGCACCGTC | TCCACAGGCT | CGTCCGCGAC | AGTTTGTACA | GCGCCTCGTT | GTACCAATCA | 600 |

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|------------|------------|------------|------------|------------|------------|-----|
| GATGCTCCGT | GTTGACGCGC | AGCGCGTACG | CCGCACCAGC | AGGTTGTTGC | GCAACTGCTC | 660 |
| GCGATATAAN | NAACCGCGCG | TCNAAOGAAA | CTCCNGCACA | AANCNCCNGA | AGAGCGCACC | 720 |
| NCTCCGANC | GGTCGTTGCG | CGCCCGCCTC | CTC | | | |

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1393RP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCACGGAT | TGCCCAAGT | ANTGCGCAAC | AGTCGTCAAN | TCTGACATAT | CTCTTGCAAA | 60 |
| 5 | TGCTAGCCTC | TGGGGGCTTG | AACTAACCAT | TACTTCTAAT | ACCTGGCTAG | CTGCCCTCCAA | 120 |
| | ATCCGGATCC | AAAAAAGCAA | TATTTATACA | TAACATATACA | CGAAATCTCA | GTTTCATCGCT | 180 |
| | AGCTAGCTCA | TCGTATCCGG | GACTGGGAGA | GGAACCTCAAT | GCTGTGGAAC | CCTTCGAATA | 240 |
| | TGGCAGCGTC | GCGGATGTTG | ACCAAGGACT | CGCCTGGGCC | AAACATGCGG | ATGCCACNTA | 300 |
| | GGTGGGTGTC | TTTGCCGTTT | TCGTGGTTPAG | TCACGACCTC | GATGCGCAAA | AACTGGCACT | 360 |
| | TGAGCAGGCC | GTCGGAGGGT | CGGTTGTCTT | CGAAGGTGAA | CTTGACCCAC | CCATTGACTT | 420 |
| 10 | GCGGACTTCT | AGGGTCTTGT | AGTAGGTTGC | GTCGGAAGGG | CTGTGGCCAG | CGTATATGCG | 480 |
| | GAGCGTCTCC | NANGTGTAGG | ACTCATCGAC | GAAGAGCGAG | AAGTACATGG | CAAGCTGGAT | 540 |
| | GATGTCAACG | CGCTTGCTGA | AGAAGACGTC | TATGGTGTGT | GGCTGGGAGC | CGTCGCTTTG | 600 |
| | CCANAANGTG | GCGGGGTTAT | CATCCNAAGG | CGTTTTCCAT | GCGGTANCCG | GCCTTGAANG | 660 |
| | AAGAAGGCTT | CCANTAGGCC | AACNAAGTGA | TATCNACTTA | CCCTGGTTCT | CCAATGTTTG | 720 |
| | CAAGCCCNCC | TGTTATTTNG | NCCAGAAAAG | AC | | | |

1393UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCAGGAT | ATCATGCCCA | AAATCCTTGA | AGCCGCTGCA | AAGCGCCTCG | TGCAAATCAA | 60 |
| 20 | GAATCTGCAC | ACGGCAGAGA | ACTTACTCTT | CGTATTTTGC | TACCTGACTT | CTATTGATGC | 120 |
| | GCGGCAGACA | GTGGACTTTC | TTTCATCAAC | GATCATCGAT | GAAGGCGGCC | GTACCGCCCT | 180 |
| | CCAGGCTATC | GTTCCGCGTT | GGCTAGAACG | ATTGAGGTTT | CTCCGCGGAG | AACATAAAAT | 240 |
| | CAAAGAGAAC | ATTTTATCCC | TTTCCAAGCT | TTTCTTCCCT | GAGGATCCCC | GTATAGCGGG | 300 |
| | CATCACGGTC | AATGGGGATC | TGATTTCCCA | CGATGGCGAC | ATCATAATCA | CCCCCTCCAT | 360 |
| | GGCCAAGAAA | ATGCCGTGATA | AGTACACGCA | GATCTCCGCG | GCCGAGAAGA | TAGTCAAGCT | 420 |
| 25 | CTTTGTTGCA | GAAGTAGCCT | TCCAGCAAAA | CCAGCCTGAC | CCTGGCCGTT | ACCCTAAAGA | 480 |
| | CGGGTCTGGC | CCTGCTGACC | CACATGACTC | CGAGGGAGAC | TCAGCTGATG | AAGACTGGGA | 540 |
| | GGATGTCGAT | GACATCCTTG | ACTACGAAAA | ATTGCGGGAG | TACGCGGATG | ATAGTGACAT | 600 |
| | TGACGACACG | GTGACAGCCT | TTTATTCACA | AGTAACATCG | AAGAGGATGT | AACCACTCTG | 660 |
| | CTTACTCAAT | TCTTCAAGGA | AGCGGTGCGC | AGAAATGCCT | CTGGCTTCCA | GGAGATCTAT | 720 |
| | AGCAGGCTCA | CTGAACAAGA | GAAGAAGAGC | TATCTGCATG | CATGGTATAG | GAT | |

1394RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTCGACG | ATTACCGCGT | ATGATTATAT | CCCAGCAACA | TGGGCACACG | CCGCACACAC | 60 |
| 35 | AGACATGATA | CTGGTCCGGT | ATTGCTGGC | AATGTCCACG | CTGGGTGATG | TGTCCACGGT | 120 |
| | GGACCTGGAT | CTGCAGGAGT | TCCAATACCA | CGTCCGGTCG | GTGTGTACAG | CACCAGGCTC | 180 |
| | GTCCTTTTATA | ATTGCAGATA | TGCCATATGG | TAGCTTTGAG | CGAANCATTG | AGCAGGGAGT | 240 |
| | AGAGACGGCG | ATCTCGCTTA | TGAAGACATC | CAGCAGGGTG | GGTGCTGTTA | AGCTCGAGGT | 300 |
| | TGGCGCGGAA | GAAAACGACT | ACTGTCTTGA | GCTTGCCGCA | GAGCTCTGCA | GGCGCGGGAT | 360 |
| | CCCAGTAATG | GGCCATGTCT | GGCTGACCCC | GCAGCGCATG | CATGCATTGG | GCGGGTACAA | 420 |
| | GGTTACCGGC | GCAAAGGACT | TGGGCCAGGC | GCTGGCGGCG | TACCACCGGG | CTAAAGATCT | 480 |
| 40 | GCAGGCTGCA | GGCTGTTTTT | CCATCGTCAT | CGAATGCATT | CCAACTAAAC | TAGCCGGTAT | 540 |
| | CATAACCGAG | AAACTCAGTA | TACCTACTAT | TGGCATTGGC | GCGGGCCCCC | AGACAAGCGG | 600 |
| | GCAGGTGCTC | GTACAGTCGG | ATCTGCTGGG | CATGTTGCCA | NGGAAGGCCC | CAAAATTTTG | 660 |
| | TGCNGAATTC | CCCGGACTTC | CNCNGGGACG | CCATANGTTC | CTTGTGCCCC | CTATGTTGAA | 720 |
| | AANGTGCCCA | NGCNCCTTTC | CCNAAAGTNG | GGGCA | | | |

1394UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCGAAGTC | CATGAAGGAG | CGTAATGGCC | TCGTGGAGCT | GCACCGCACT | GGGTGCGTAC | 60 |
| 50 | ATAGCGGGAT | GTAAGGAATGC | GGGGATAACG | ATTGCGAAAA | GCTGACTGGG | CTGCCCTCTT | 120 |
| | AGCTTCAGCT | CAAGCTGGCG | CAGCAGCGTT | GCTATAGGCT | GTTGTGGCGA | CAAGGTGCGAC | 180 |
| | ACTTCAGTTG | CAGTAGGAGC | AGGTAGCATA | CGACTAGTTA | TATCGAAGTC | GTGCCGGTAA | 240 |
| | TGAGGATGAG | GGTCAATTTT | TGGCTCCGAG | CGCTGGCTAG | CACCACAATT | ATCACCAGT | 300 |
| | CCATACCTCC | GATCAATTTT | GAGATCTTGG | CTACGTGCGA | CCGGTTTTGC | ACCCCTCCCG | 360 |
| | GCTAAGTTTT | GCACCGTGAC | CTTCGATTCC | TCCTGGGAAA | TGCGAGATTT | CTTACCTCT | 420 |
| | TTACGTGTGC | CCTGGAATAT | CCCCGGCAGC | TCCTTCGCTC | ACTGAGTGTT | GAGCGTGATG | 480 |
| | ACCACCATAT | GCGTATTCCC | TCCCGCTGT | GCGCCGCGAC | TTTCCGCGCG | GTTATGTGCT | 540 |
| 55 | GCTCCCTGCG | CTGCAAAAGAG | CTTTCCAAGT | ACCGATGCAA | AGTCTGTACC | CCCTGTGTTCT | 600 |

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|------------|------------|------------|------------|------------|------------|-----|
| TCCACCAGAA | GCATCTGGCC | CATTGGCAAG | CCCATATGCC | CTAGGAGCCG | ATCCATATCT | 660 |
| GCACAACCCG | TGGATGTTGT | GGGATGCGAA | GTAACCGGCG | ACGGACGCAA | GCCCGGATGC | 720 |
| GACTGCCTGC | CNCCTCACTG | TTGGATGCCA | ACCTCTCCAC | GCCTCTNGAA | ANC | |

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1396RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAATCAT | TCTAGAGCTG | GAGCAAAGGA | TACCTATAGG | CTTGCCCTCGT | CATTGGCCCC | 60 |
| 5 | TTTCATTATT | ACATACCCAT | CGTTCCACAG | CGTGTCACAT | TCTGCCATTG | GAGAGCAGGA | 120 |
| | CACCCAAGTT | TTCAAACAGA | ACAGCCTCGT | TCTCTTGTA | AAAGTTGGAC | CTTCTAACGG | 180 |
| | TGTCCTCATC | GAAGCCGTCG | TCGCCACTGA | GGACCTTGAG | GGCGTTGGAG | GTGGCTTTGA | 240 |
| | TGTAGTCGTT | GAGCATAGGA | ACCGGCTCGT | CGGCAAGCTT | ATTGAAAAAT | TGGTACTTGT | 300 |
| | TGGCTGTGGA | GCTGANCTGC | AGGGGAGAGC | AGTTGGGTCT | TCTTTTTCAG | GGTTGCCAGC | 360 |
| | TGCGGCTCGA | GCTGGCTGGT | GACTGTGTTG | AATTCTGTGA | GCAGCAGCAT | CCCCTGTTGG | 420 |
| 10 | GCAAGGGAGT | TTTGGGCGGA | CGCCGCTTCG | GGATCCTTAA | CCGGGACACG | TGGCACGCGG | 480 |
| | ATGTCGAAGA | CCAGTTCGCC | GTAGGTGGAG | GTCTTGTCGA | CCTGGATGGT | GTAGTTGATG | 540 |
| | CGCACGGGGG | GGATGGGCTT | GATGTGGGCG | TTGACACCTG | GGGCAGCTCG | GTGAGCTTGA | 600 |
| | GGTACTTGCG | AGGCTCTGCG | GCGGGCCGCA | GGAACCTAAC | GATCATGGCG | TCCACCTTGA | 660 |
| | TGACAACTTG | TCGTGCTTCT | GCGTGTCTTT | GGCGTTGCCG | CTNGGGTCTG | CGACNAAGAA | 720 |
| | CTCTTGAACA | GGATTTCTTG | TNAACC | | | | |

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1396UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGGTTAC | TTAGAGGGAG | TGCAAGACCT | GGCCTGACTT | ATCTTAGGGT | TATTAGCTAT | 60 |
| 20 | GACGGGTGTG | TTCCGATTTT | TGTCCAAGGG | TTTAGATGCC | ATCAACTCCC | TGAATTCGCA | 120 |
| | CTACTTTGCG | TTGTGCGGTG | ATGAACAGAA | GGCCATGACT | TTGCTTGAGC | GTATTAGATA | 180 |
| | CTACAATTGG | ACGTTTGAGG | GGATCTGTGT | GGTCTGCTCT | GGGCTGATGT | ATGCCGTGTA | 240 |
| | CGTGGCGGGG | ACCAAACTAA | ACGAGCGGCG | CTCGGACCGT | CTGTTTGAAC | AGCTGAACAA | 300 |
| | GTTCTTCTGG | GAGGAGCTGC | AGTTTCCGCG | CGTGGGTTT | TCGTCCCGGG | ACAAGGGACG | 360 |
| | GCTGCCATAC | CTCAGCGATC | GGAAATGGCAC | ATGGTGCAAC | GCATTGCGTA | CGGGGCGCAC | 420 |
| | GTGTGTGGAC | CATATTGTGG | TGAAGGCTCA | CTACCCGCGG | CGCTTCAACC | CTGTGGGGCT | 480 |
| 25 | GCTGGTGGAG | AAGCTGCTGG | GGATGTTCTT | CCCGCAGGTG | GTGGACCGCA | CGGCGATGAG | 540 |
| | TTTGTGCAGG | TGACGGTGAC | CCCCAACGGG | AAAGTGGACG | AGGACGAGAA | CAGCGCGGTT | 600 |
| | CAGGCGACGG | AGGACGGGCT | GAACCGGTTT | CGGTTTCATG | CGTCGATCGT | CCACAAGAAC | 660 |
| | GGGATGAACG | ACTCGCGCGG | CAAGAATACT | TTCCTCTCCT | TGACTCACNC | GTCCGANGGC | 720 |
| | GAAACTCTCC | CATGGAANTA | CTCTTCATGT | CCGANAACAA | CCACTGAACA | AC | |

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1397RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCATT | TTCTACAGCA | AATATTACAC | GGCCGGCGGA | CCCTCGACAA | TGCAGAATTC | 60 |
| | GATGCATACA | CAAAACATAT | TACTACAAAG | CTTTCAAAG | GTGTCTCTCC | CACAGACGCA | 120 |
| 35 | TTTCTAGGCG | CACTCAAGGT | TTACATCTCT | AATTGCACTT | TGAAACGTTT | ACGCTTGCAG | 180 |
| | AAAGCACACG | TTATACTTCT | TGATAAAATT | GCGATATTCA | TCAATACAAA | TGTGGTCCAT | 240 |
| | GTGTCTGTG | AATCGATACA | TACGATACTG | AAAAGTTTAG | CTGAATATTT | TATTGATGCC | 300 |
| | AAGGAATATA | AGCGACTCAA | CAACGTCGTC | AATATTTCAT | TCAACGCATA | TGTGATGTAT | 360 |
| | AAGCATGAAA | GCCTTATACG | ACTTGCAGCA | GATCTCGAAT | TATTTCTCTT | TATGTCGCTC | 420 |
| | AAACAGGACT | GGTCAATGTT | TACCAAGTTC | GAGAAGTTTA | TTTCTGTGCG | TTTCTGTGCG | 480 |
| | ATCTCAGTAT | CGCTCTTTGA | ACAGTGTTC | AATGTTTATG | TTATGTTTCG | GGATCCCTCA | 540 |
| 40 | TTGGCCGGCC | TATGGGATGT | CTGCTTGAAC | AAAGTGGTGA | AGTGTTCCTA | GAAATTGGGA | 600 |
| | CTAACTAGTT | ACACAGACTT | TAAGGCATCG | TCCGAGCCAA | TGCTAGTGTG | GGTATACAGT | 660 |
| | GGATTTGTTT | CTGATATTTT | TACAATACCT | TATAATGGCT | GGGCTCCGCT | ATCGAAAATG | 720 |
| | TTATTTCATG | CATTAAATGG | GGTCTATAAA | TTG | | | |

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1397UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGAAAT | ATTGCTCACC | CCCACCGTGA | CCTATGTAGA | TGAACGTGCT | GGAGTTCGTG | 60 |
| | ATCATTCTGA | CGAATTCATC | CTCTTCTGGC | TTTGAGCCAG | TTACTATCCG | TGTTGAACCC | 120 |
| | AAGTCGCAAC | AAAGTCTGGT | AAAAATGTTT | TTAAAGCGCA | GTTCAGTCCT | GGTCAAGTCC | 180 |
| 50 | CCATCGGGGT | TTAAAACAAT | GGAAAGTCTG | CTGTCTAGGT | TAATCTTTGG | AGAGATCTCT | 240 |
| | CCTCTGAATT | TAGTTAGTAG | CTCGTGAAGG | AAATTTATGG | ATGGTACGGG | GCTCACAGAA | 300 |
| | GCATCGGAAA | ATATACTGAG | AGATTCCCAT | GGAACCAAAC | TGCATTCCGA | GCTTATTACC | 360 |
| | AGAAACGTGT | GTCTTAACCT | TGGCGCTCTG | GGTGCCTTGG | CATGATAGTC | GTGAATTAGT | 420 |
| | TCTTCAAGTT | GAATATGTAT | GAGATGAACG | TCAATCTCAT | CATAGGCATT | TTCTTCGCCA | 480 |
| | TGGAAAAGCA | ATATGTCAAA | GATGAAGTAT | ATCAAGTCCT | CCATGAATTC | CACCTTCTTT | 540 |
| 55 | TCGTGAGGAA | GGGCATCCCA | ATCCACCTTT | AAAAATAACT | CTAATATGAA | ATCGTCCACC | 600 |

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|------------|------------|------------|------------|------------|------------|-----|
| TGTTAGAACA | TAGACGGGTT | TCCATACTGT | CTTCTTGTTG | GAAGATTMTG | TGTAAAACCT | 660 |
| TTGAAATCCT | AATTTGAATA | NTGCAAAATG | GTTTTATCCA | ACTGTTTTTG | GNTGAAGAAA | 720 |
| CCGCNGAATC | CCATATCCAG | ATCTCATGCG | GGGCTCNAT | CTACATC | | |

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1398UP

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|----|------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCGCTCTT | CTTTGAAAGA | ATATGTAGGC | ACCTCTCCT | ATCTTGCGCC | GGAATTGGTT | 60 |
| | CGCTGCAAAG | ATATGAAGAC | GATGACACCT | GCAGAAGCAG | AAAGAATCCC | AGAGTACGGT | 120 |
| 5 | GCAGCAGTCG | ACATATGGGC | TCTTGGTGTC | CTCTGCTACT | TCATGATGAG | TGGCTATATG | 180 |
| | CCGTTCGATT | GCGAAGACGA | TGCCGAAACT | AGTGAAGG | TCTTGAAGGG | TGACTATTAC | 240 |
| | GTTGACGAGG | AAGCTCGTGC | CAACGCCAAT | GAGAGCTATA | ACAGCTGCTG | GAACCTTCATG | 300 |
| | CAGCGCTGCT | TTACGATGGA | TGATAATATC | CGGCCGCGCG | CACACGAAC | CATGGGCCAC | 360 |
| | GCATTCATGC | GGGAATACTT | CCATCGGCT | GCGGCCAATG | ACTTCGCATC | TATCCCGCTA | 420 |
| 10 | CTCGAGAGAT | CAAGATCCTC | GAACCTCCCTG | CACCACTTAG | CGCCGCCATC | ACGCGCACCG | 480 |
| | TTTATCTCGT | CTGGCGTGCC | GGTTATTAAC | GAGCGCCCTG | TGCCACGTGT | TGGCTCGCGT | 540 |
| | GAGCCCAATT | TGGATAAGTT | GCGGGATACT | TTGCGGAAGA | CCTTTCCCTC | ACTTCGCTTG | 600 |
| | AACCTATGCG | CTTTGTGTGCT | CAAGCGAATA | CTCCTAATCC | TAATAAGAAG | AACTCTACTT | 660 |
| | TTGTTCTTGA | GCCAGCTCCT | CCCACGGGGA | GTCTAATGAA | TGGGTGTTTC | ACGTACACACC | 720 |
| | GGAAAGTAAT | CCAACCTCAA | TACGCCAGTC | CTTTCGCGCA | GAAGCTCCGG | CCAA | |

1399RP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCATTACT | CGCAGAAACT | GAGATGTTAG | GGGGACCAA | CTCTTTTCTT | TGATGAGATA | 60 |
| | CGGGAGGATG | CCCTCGGAGA | ACCAGAACAA | TGCAGCAAAA | GGCAGCAAGA | ATGCCAACGA | 120 |
| 20 | GAAAAGCACG | CATCGCTGCA | TATGCAAGTC | CACCCCATAG | TAGTTCCCTG | CGCCATATGC | 180 |
| | CTGGGGGCG | AGTGATCTA | AGCTTGTGTA | AATACCCCTCN | AATATTGCGA | AAGTGATATT | 240 |
| | GGTGGTCATG | GAAGCCAGGG | AAACCGCTGC | CAACTCATTC | TTTCCCAGGT | GACCCACAAC | 300 |
| | TAATGCACAT | ACAACCGGAA | ACATCTGCTC | AAGCAGAAAT | GTAAATATGA | GCGGCACGGA | 360 |
| | GTAACACAGA | AGCACCCAGAC | TCCTCGAATT | CACGGTGGCT | GGTTCTCGT | CGAGATCCTC | 420 |
| | GGACCTCGG | AACGCGCTGG | AGGGGCCGCC | CTTGCTGCCA | ATGGAGTAGT | AAGACAGCTT | 480 |
| 25 | TGGGGGCGGT | AGAACACGCA | CTTCTGCCTT | GTCCGACGGC | AGTTGCTGCT | TAACCCGATG | 540 |
| | CATGAAGTGA | GTGTAGTGCA | CCATGTCTGG | CGCGGCGCCC | TCCACATCGA | CGGCCACGAT | 600 |
| | GTCCTCGGCG | CTGCCGTTAA | CAGTCGAGTA | CCGCCGTTCC | TGCTCCTCCA | ATATCCAGTC | 660 |
| | TACATTCAGT | GCAGAGGACG | GCCCCGCTCA | CTCGCAAGCG | TCGACGGCAG | CGAGACTGTC | 720 |
| | CGCGACAGCT | CTCCTCCGTC | AAGCACGCCC | TCCTCC | | | |

1399UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTTGTAC | GACGGCCGCG | GAAGAATCGG | TGCCATCGTT | TCCAACAGAC | AGTTCCAGTT | 60 |
| | TGACGGCCCA | CCACCACAGG | CTGGCTCCAT | CTACGCCAAG | GGTTGGGCCC | TAACCGAGGA | 120 |
| | GGGCAACTTG | GCCCTAGGTG | ACAGCGACGT | CTTCTACCAN | TGCTGTGTCG | GCAACTTCTA | 180 |
| 35 | CAACCTATAT | GACCAGAACA | TGCGACCACA | ATGCTCTCCA | ATTAAGCTCC | AGGCAATCAA | 240 |
| | ATTGGTCGAC | AACCTGTGAA | CAGCCACAAA | GGTATATAGT | GCATATATTG | TATTAGTTAA | 300 |
| | ACTAGGAATT | TTTGTGGGCA | GCTAGACTGC | CCTACGTGGA | TTTCTCGTTG | CGGATCCTGG | 360 |
| | GCTGCCGCTG | GCGCTGACGC | ACAAGAGCAA | CTGCACAAC | ACTGGCGTAC | CGCATGCCTC | 420 |
| | CTTGTGCATT | TTTGCCCGCG | TGGACGTCGC | TGACGTCAGC | GTGGCACGTG | ATCATAATAT | 480 |
| | GTCCCGGGCC | AGGCCCTTAT | TGTGGCGGAC | AGGAATGTCAT | GCGGAGGTGC | AAAATGGTGC | 540 |
| 40 | AAAATGGTGC | CCGATGCAAC | TCTAGGCCCG | AGCTGAAACA | AGATTACCTG | GGCAGCCTAA | 600 |
| | ATTTGCAGCG | GCTGCCCTGGC | AGCCACATG | TGTATTGTGC | TTTTACAGTT | CTTGCTGCGG | 660 |
| | CTGTCCAATA | CAGCCGATCG | CGACTTTGCT | GCGCACGGGC | CACTAGGCCT | GCGCGACAAA | 720 |
| | AACTGCAGGC | GCGCCGGCGT | GAATGGCGCC | GGACGATGTG | CTGCCGCGGA | ATTCC | |

1400RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCTGTCA | AATATGGCCA | ATACCAAGCA | GCCGCGTGT | GTAGAGCATG | TGGTTGAACT | 60 |
| | CAAACCCCTCA | AGCAGCCGGG | TTTGGGACTG | TGCACAGGAG | ATATTGTCTC | CATTTCCACA | 120 |
| | GTCCAAGAAC | AAGCCAGGC | CGGGGACTG | GAATTGTCCC | TCTTGTGGTT | TTTCTAACTT | 180 |
| | CCAACGGGCG | ATTGCATGCT | TCCGGTGCTC | CTTCCCAGCC | ACTAGTGCAG | TGACGGTCAG | 240 |
| 50 | CAAGCTATAC | AAGCCACAGC | AGCAACGCCA | TTATCAGAAC | CCACACCACG | TCCCATCGAA | 300 |
| | ACAACAGGTG | CAGCACCCGC | AGATTCACGA | CCAAGACACA | CAGCAGCATT | CTCAACATTT | 360 |
| | CAACATCCAG | CAGATGCCGC | AGCAACTCCA | AATGCAACAG | CAAGCGCACG | GTACCGTTCA | 420 |
| | AGGGGGCAGT | AGCATGCAGC | AGTACAAGCA | CAGGCCTCAG | CACGGCTTAC | AGGCGTATCT | 480 |
| | TGGCTGCTAC | CAACAGCAGC | AGGCGAAGTC | ACAGCAGCAG | TACCAGATGA | ATCAGCAACA | 540 |
| 55 | GGTGACAGTG | ATCGCTGGCG | ACGCCAGAGA | CGGTATAACC | GGTACAACAA | AATGGTGCAG | 600 |

GGCAACGGGC AGAACGGTAA TTCTGTACG GAAATGGCTC CCTGGGCAGT AGCAACGTGC
CCTTCAGAGC TGGCGACTGG AAGTGCTTGA ACTGTTCTTA CCATAATTTT GCCAAGAATA
TTGTTTGTCT GCGTTGTGGT AATCCAAAGA CGGCCAT

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720

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1400UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGGCGGG | TACTTCAGGT | CATTCTCCTC | CACCACCACC | ACCAGCTGCC | CGGGCCCCGG | 60 |
| 5 | CTCATACAGC | TGGTACGCCA | CGCGAACATG | TCGCTCCGCC | TGCGGCACAT | CCGCTCGTA | 120 |
| | GAACCTGATCC | GCAGCCACCA | GCCGCGTCGC | GCACCTCCCG | CCGCCGGCTT | GGCTCAGCGT | 180 |
| | CCCCACTAGC | TGCGCGACCG | GTGTGAGCTG | CACCATCTCA | GGGGGCATCA | GCCAGCTCAG | 240 |
| | CGTCGATGGC | ACCACCAAGT | CGGCCGAGTA | CCGCTCCGCC | AGCTTCCCGC | TGAACTCGAC | 300 |
| | CTGCGGCTCG | GCCCCCGCGA | GAAGCGAATG | CGGGTCCATA | GGGCCGAGGC | AGTCCAGTTG | 360 |
| | GTGTCTGGGA | AGACGCTCAG | ATTGCCATTG | TTTGAACGTG | CCACAGTTAG | AAC TTGCACT | 420 |
| 10 | ATGCTACCTC | CGCGGCGCCT | GCGCGACCCC | ATAGTCACAT | ACTATCATCC | TCACACAAC | 480 |
| | CAGTACTTGC | TGCGAGTCCC | AACTCAAGCT | AACGAGTACC | AGACTTGGTT | TTGGCTGTTG | 540 |
| | CTGTATGCAT | TCCAATGGTT | TGTATAATCG | AAAAATTGTT | CAGTTGCTCA | GCACATCTCA | 600 |
| | TACAAGCAGG | AACAAGAGCG | AGTCGCGAGC | CAAAGACCTC | TTAGGCATTA | GTATCGGTAG | 660 |
| | CTAGGATGTC | GGCAGAACAG | TTGCGACAAG | TACACGCACT | TGCAGGGCGA | ATTGGAGGAG | 720 |
| | CTGGTGGTGA | CAGACAGAAG | CTGGAGACGC | AGCTGCAGGA | GAACAAGATC | GTGAA | |

1401RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGTTG | TTGGCAATAC | CCTGTCTTAC | GTTGAAAAGA | AGTGTCTCTG | AGGTGTCCAT | 60 |
| 20 | CAACAAAAAT | ATTACCAGTT | ACAACACCCA | CCCCAACTCT | ATTGGCCAAA | ACATCCAACA | 120 |
| | ATGTCGTCTT | ACCTGCACCT | GAATAACCCA | TCAGAGCAGT | CAAAGTCCCA | GGCTTTACCC | 180 |
| | AACCATCCAC | GTTGGTTAGG | ATCCTCCTGG | TTTCATTCTT | AATCTGTATA | TCATAGCAGA | 240 |
| | CATCTCGCCA | GTGGAATAAT | CTATCAGAAC | CAATTCCTCT | AATAAGTTCT | CGGGATTGGT | 300 |
| | CACTTCCTAT | AGTACTAGAT | TCCTTTCTCT | GTGCATTACC | AAATTCTATG | TCGCAGTTGA | 360 |
| | TGGCTTTT | ATTTTGCTTT | TTTATTTTCT | TCAAAGTTGA | CCTTAGGAAT | ACAGCCATTT | 420 |
| | CACCTTTT | CATCCCACTT | TTATTATACT | CAATTAAGAT | CAGATAAACA | CCTAAGAAGA | 480 |
| 25 | AAAATGCATA | AGCAAGAACG | ATCCCCCAAT | TCATCCACTT | GTTTTTGGTG | TTGTAACCAT | 540 |
| | AAGCAAACCT | TATGTAACGG | GTCCCATTTA | CAAAGCTCTG | ACCAGGAACT | GCTCCACCG | 600 |
| | ACAAGCAGAC | TTTATTCGAA | ATAGGGAATC | CCTCATAGAA | ACTACCATCG | GGTACCATT | 660 |
| | GAGAACATTC | GAATATGCGT | CCGTCAAATT | CATTGCAAC | CATGGCTTCC | ATGATGCGTG | 720 |
| | CGA | | | | | | |

1401UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTGCTGA | GATTAAGCCT | TCGTGTCTG | ATTTGTTTTC | TATTTGGAAG | TCTGCAGGAG | 60 |
| 35 | CAGGCTTTGA | AATAGAGTTC | TTATGTTATT | TAACGTCCGG | GTAACGAGTA | TACAAGCATA | 120 |
| | TGTTTATGCG | TATGCTAGTT | ATATGCTTTG | AAGAGGTGGT | CTGCAGCTGG | CGGCTATTT | 180 |
| | TATTTTATTT | TTTCATTTCA | CTAAGACTTT | ACATTTT | TTTAAATTAT | TTTTTTTGCG | 240 |
| | CTAAGACTGT | GACACGGAT | TTTAGAAAAA | AGCGAAAAAC | TTCAGGAGGC | CTCAGCTACA | 300 |
| | TGATATCCCA | GGCCTTGAT | TTGTGAGACT | GCACCTCCGG | GCTAGGTTGT | GACCAAGAGT | 360 |
| | TGACCTGCGG | CGGCGTGCGG | ATTGCAGGGC | TTACAGTGT | GGTTAATTTA | ACAATTTATA | 420 |
| | GAGAAATAGAG | ATGCCCGAGC | TTAATCAACT | GTCCGGCGCG | CCAAATTCTGA | TTTTTTGGAG | 480 |
| | TTTGTGCTAT | TTACAGCAG | ACGAGAAAGC | AGGACAGGCG | GCGCGCGCCA | GGCAGTCCCC | 540 |
| 40 | CCTGCAGGCG | TGAGCGGACA | CAGAGAGAAA | ATACAGGAAG | ATGAATACTG | ATAATCTACA | 600 |
| | GATTTCAATT | ATATCTCATT | GATCCGCTGA | TTATCAATGA | AAGTACCCAA | TGATCCATGA | 660 |
| | AGCCAGTAGA | TGTTAGTATA | TTTTATTAAA | TATATGCACC | TTTGTTATCC | AATCTCTGTT | 720 |

1402RP

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|----|-------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCAGGAGC | CCATCAAGGC | GCCTAAAAAT | CGCATCCCCG | CTGTCCGGTTT | TCCCCACTAC | 60 |
| 50 | GCCGCTGTTG | CTTGAATATC | AATTACTGCT | GTAGTTCTCT | CTGTGATGCT | GGTTGAAATG | 120 |
| | TTGCGGCGCG | AAAGGGTCTG | CCTGCTGAAA | GGAGCTGAAA | GGTGGTGACG | TGGTTCCGGG | 180 |
| | ACTACTAGCG | TCTGCAACCG | TCTTTGAGCC | CAAAACACCG | AGGCCGATTA | CATTCCCGTC | 240 |
| | AGCCGGCCGG | AGGGTAGAAG | ACCTCCCCCTG | ATGGGAGTTC | ATGCTCTTAC | TGCGGGTGTG | 300 |
| | GTAATAGTAC | TCACCAACCAC | TGCTCGACGA | AAGCGGAGCA | GGGGGTAGCG | CTGCCATCTG | 360 |
| | TTGTTCCCTC | CTGCGACGTG | CTTCTAACTG | TGCCAAACGC | AGCTGTGCCT | GTGCTCCTG | 420 |
| | GTGCGCGTCC | ACCTTGGCCA | AGAGCTCCGG | ATCATCATGC | AACATCTCCA | GCACCTCCAA | 480 |
| | TTTCGCCCCCT | AAGCCACGTG | ACTCGGCTTC | CAGGTCTGTC | ATTTCTCGAT | GCTTGATCAT | 540 |
| 55 | GACCTGCAGA | TGGAGCTGCT | CCAGAAATCTC | GCGCTTCGCT | ATCTCGTATT | TTATCCGCTC | 600 |

CGTCTCCTCG CTCTCAGGCC CCAGCGGCCC CTCCTCCGCA CGCAGCCCGC TGTATTGTC
GTCGCCCAGG GAAAGCTCGT GCGGCGACTT CCGTGTCGCC ACCTGGTAAT ATGCCGGCC

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1402UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCAAGTTA | TCGTTGATCA | AAGCGTCAAT | ACCCCTTTCT | CTAAGCATGT | GCCAGGTTTC | 60 |
| | CTTCGCGGCG | CGTAGGTATG | GTTTCCCGTA | CAACGCAATG | AAGCAGTAGG | CATAGTGGTT | 120 |
| 5 | GAAGTACTCT | GCCATCCATT | CAAAGACACC | AACAACGGCA | TCCAAGATTA | ACCACAAGCA | 180 |
| | CTGCATCCAC | CCACTGTCCG | ATATCCCGGA | AATAATCCCA | TTGCGAAGCA | GCTGAATAAT | 240 |
| | CTGCCGCGAT | AGTTGAATCA | GAGACACAAT | CAGCGAGCCA | AAGCAAATGG | ACCCAAAGGA | 300 |
| | AGTGGTCAAC | GCTCTCTTTA | ATGAGCCAAA | AGCTGGCCAA | CGTGGCATGC | CTTGGTCCGA | 360 |
| | CTTCGAAAAA | TAGTACCAGC | AGCCGTAGAT | GCCCGCGATG | GTGCAATGAA | TCACATTCCT | 420 |
| | GATGACCTCA | GAAATGTAGA | ATCCACAGAA | GAAAACGAGT | ACCAAAATAC | CAATTAACCT | 480 |
| 10 | TCCACGTGAG | CAAGAGCCAC | CAGATACATC | GCAGCCACCA | TTCTCGCTCT | TCGGGTCCATA | 540 |
| | CTTTATGTAG | GTCGCAACCA | ACACTACAGA | GAATATGACA | GAGAACGCAG | CCGACACAAT | 600 |
| | GGTACCTAAT | AATGACACAA | GCCACGTCTG | TGGATGTTTC | TTCATAACTG | ACATGACCGT | 660 |
| | ACGCAAGACA | GCGACACTAA | ATGGAATCCT | TGAGCGCATT | AACCACTAGC | ACACGCGCGT | 720 |
| | CAGAAT | | | | | | |

1403RP

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|----|-------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCCGTTCC | TTGAGAAGCA | CCTAAAGCCT | GAACCTCCTGG | CAGAAGCGAT | CAAGGGAACC | 60 |
| | TCTTGGGAGG | GTAAAGTTAG | TATTAACCTTG | GTAGACGGAT | TCGACCACTC | GTATTACTTC | 120 |
| 20 | GTCAGCACGT | TCGTGCCGGA | ACACGCAAAG | TACCATGCAG | AAAAGTTGGG | TCTAGTTTGA | 180 |
| | GATTTGACGT | TGCGCCTGTT | AATTGGTATA | TACTTACATA | TTTAGTCATA | TGACGGCTTC | 240 |
| | AAGTACTCTG | ATTCTGCATT | ATAAGTGCAG | CCGAATGCCA | GCCTCCGGCA | GTAATGGCAA | 300 |
| | CGCAAACCTGA | ATTTGCCGGT | AGTTCAACCT | TGGCCGGTTG | CAGCACGCGT | ATGCTCCGAG | 360 |
| | CAGACTCAAA | CGTCGCTATT | TGGCGGGTAT | CTACAGCCTC | GTGCGGATCT | CCCTGCCCAA | 420 |
| | GACAGCCACA | GATATCACTC | TCCAGCCCCC | AGGAGTAGAG | TTACACCTTG | TCGGTTAGAG | 480 |
| 25 | CTAGGTTGTG | GTAGTCTCCC | GCAGATACAG | CAATAAATCT | CTGGCCTTGT | TCCAAATTC | 540 |
| | TCTTCATGAA | TGAGTCCTCG | ACGATATCAC | CATTATTCAC | CTTCAGGGTG | TATGTGCTAT | 600 |
| | TCTCGGTACA | TAAAACCAAGT | GTCATGCAAG | ATGCCTCAAT | CTTCGTTTAA | CCGTCCATCA | 660 |
| | AATGGCAAAT | CAACGGTTTT | TGAAACGCCA | TGAGTGATA | TCCACAGTTT | GCGCCCATTG | 720 |
| | TTAGTAATGT | A | | | | | |

1403UP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTCAATA | TCAACCAACT | TGTGACGTCG | CTTAAAACAC | CATATGCGGA | GGACATTATG | 60 |
| | TCCATCACCG | TGTACAAGGA | CAATGTTTTT | GCCACGCACA | AGCAGGGCAT | TACGCGGTTC | 120 |
| 35 | CACCAAGGGA | ACGTGAACCT | CTGGAATGCT | CACCAGGGAC | TCGTCTTGAG | TAGCGAATA | 180 |
| | TTGCGCAAGA | GCTGTACCAG | TAATCGTATA | GATCGGATGG | TTACTGGCGG | AAATGATGGG | 240 |
| | TCATTAGCGT | TGTGGAATAT | TAACGAAATGG | CTGAACGGTA | CAGCGTCCCC | GGGTGGATCA | 300 |
| | GCCCCGACCG | AAGAACAATC | GCTTCCCTCT | GCGGAGCGCC | GAAATTCTTG | GACCGAGTAT | 360 |
| | CAACAAATCC | AGTTAGATAA | CGATCACATG | ATTGCAACAC | TGCGGGAATT | CATTAGTTAC | 420 |
| | CAGACTGTTT | CCCAACTCCC | AGAGCCCCAA | AATATCATCG | ATTGCGGTAG | GTGTCCGAAC | 480 |
| 40 | TTCTTGCAAA | ATCTCTTCAC | TAAGCTCGGT | GCTAACCAAT | GTGGGCTTAT | ACCTGTTCAGT | 540 |
| | ACAGGCAGCA | ACCCGGTGGT | TCTCGCGCAG | TTCAAGGGCA | ATGCAGCCGC | GCCCAAACGC | 600 |
| | ATACTATGGT | ATGGCCACTA | CGATGTGATA | TCCGCGGACC | ACCGTCCGAG | TGGGACAAACG | 660 |
| | ACCCCTTCACG | CTCACTTGCG | AAAATGGGTA | TCTTAAGGGA | AGAGGCGTGT | TGATAAC | |

1404RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCAAC | GTTACTGATT | ATCCTGTAAG | CCCTCTTTTG | GGTTAAAACA | TCCTGTGAGT | 60 |
| | TAACAGTCGT | GTTGAAGATA | GAAAATAAAG | CAGTGATAGA | TGATGCTGGA | ACAACCCTGG | 120 |
| | ACATAACCAC | CACAAGATCT | AGAAAGTGTG | CACTCATTTT | TGGCTGGCCC | TTACAGGTT | 180 |
| 50 | GGCTAGACGC | CTCCTTATCC | ATGGCATCTT | TTAGTAATGC | GCATACGTTA | TCAAACGTGT | 240 |
| | TAGACAGGTT | TTCCGCAGAA | GTAATTTTCA | AGTATGCCTC | GATGGTTTCC | AAAAATAGC | 300 |
| | TCCGAGCGTT | GGGTGACAGT | TGCGTGTAGA | CATTGAAAAG | AACGGCCAAC | ATATTGGGCG | 360 |
| | ATTTCTGGGA | GAGGTATTCT | ATGTTTTTCT | CCGCTCTCT | CGGCGGGAAT | TGCTGTCCCA | 420 |
| | TAATAATGTC | GTCTTATAC | GCACCATCTC | TGTATAGAAG | ATTACTTGTG | ACCAAGACCT | 480 |
| | TCAATCCATT | GCATATGACA | GTACGCAGTT | CAATCTGGA | ATAAAGTAGG | GACGCTAACT | 540 |
| 55 | CTGCAGCAAA | CTCATCCGTG | AATACATCGT | TTAGATCTTT | TGGAAGAACG | CAGAACTGAG | 600 |
| | GGAAGGTAGA | CCACAATTGG | TCAACAACAG | TCTGAAGTAA | TGTGCACTGG | ATAGACTCCT | 660 |

TATCCAGTTT CTCAATGGTG GACTCGAAAT GACGAATGGT AGGAATAAAT

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1404UP

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|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTTCAGC | AAGATCAGCA | CCACTTGACG | CACTACAAGA | AGTACCGGCA | CTGGCGGTGG | 60 |
| 5 | CAGGCCAAGC | GCAGGCTGGC | CGGCTGCGAG | TCAGGAAAAG | TCGGAGCAGG | TCGTACAGGA | 120 |
| | GCCCGAAAAC | GCCGAGCCGC | TGGCGAAGCT | GGGCGACCGG | CTGACGGTGA | CGGCGCTGAC | 180 |
| | GGGCAAGATG | AGCTACTACC | GGCAGCTCCA | GGGAAGCGTG | AGCTCGTTGC | TCAGTTCTGT | 240 |
| | GTCGCAACTA | ACGACGTCCA | CCCGGGCGCC | AGAATGCGAC | TTCACTGAGC | AGTTTCATCAC | 300 |
| | CTTACTCGTG | AACACCTACC | ACGAGATGTG | TCTGGATGCA | ACCGTCACAC | CGTTGACAA | 360 |
| | GACTAACC CG | CCATCTGCTT | TTCTCAACAA | GGTAGCGCGT | GCTGCGGTGG | AGCGTTCTGA | 420 |
| 10 | GCAGCAGAGC | ATCGCCATCG | GACGTCCGCG | CGATAAATGG | TTGTTGACCT | GCACGCGGAA | 480 |
| | GCGGCTTCTA | CAGGAAATAA | AGCGGGAGAC | CGAGGACGTT | CCACAGGGGT | CCGTGCGCTC | 540 |
| | GGTGGCCTGT | TCCATGAACC | ACGGCACCCCT | ACAGCGCGAT | CTAAGCTCCG | CTTTTGCAGA | 600 |
| | GGAGGGCGAT | TTCTTCTACT | GGGATCCGGA | CTTCCAACCTG | TTCCAAGGCA | TCACGGCAAA | 660 |
| | ACTTCTAACC | GACACTGGAG | ACATCTCGGG | CAAAAATACC | CCATGTCTTT | GGATC | |

1405RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTTTCAT | ACTTTCGGGT | TCGTGCTATA | TAACTAAGAT | TGGACAGAAC | TGCAAGGGCC | 60 |
| | ACAGAGGAAG | AGCTGCTGCA | TTGCACATTA | GGCAGGAACA | GCGAATGTCT | ACAAATGCAC | 120 |
| 20 | ACTACACACT | ACCGCTCTCA | GCCGATCCCA | ATCTCAGATG | CGCACAGCAA | GGGACCCAGT | 180 |
| | TCCTTGCCCA | TGCCGCTGTA | CTCGCAGCGG | GGCGCAGATG | GGCTGCTAAC | CATTAATGCG | 240 |
| | AGCGCTGTGG | GCTCGCCTGT | GGGCCCCCAG | CCGGTGATAC | CTCCACTCAT | GCACCAGGTG | 300 |
| | GCGGTGCGAC | AGCACGCTCA | TATCATGCCA | GGCTCGTACG | CGCTGCGACA | GAGCTCGCCC | 360 |
| | CAGGTACCGG | CGATTATGGG | CGAGTTAGCG | ATGCTGAAGA | AGTCGATATT | CCAGTCCGCTG | 420 |
| | AACGGCGAGT | TGACGACGGA | GGAAATACAAC | AGCATCTACC | AACATTTGAG | TCAACTGCTG | 480 |
| 25 | GCGTCCCTCC | CACCGCCCGT | CGAGCCATCT | GCAGCGCAGC | CCCAGCTGCG | ACTGCCGTCG | 540 |
| | ATATCTCAA | TTATGCCGGG | AACAGAGCCC | CAGGAAGTCC | AACGTACCTT | CATCATAGCA | 600 |
| | TCCTCCGAGT | CACAGCAGGG | CCAGCGGTAC | ATCTCGCCGC | CGTTAAGCTC | GACAATGTCT | 660 |
| | ACGCACCCGC | TTTCACCGGG | CATGTCCGTA | GCCAAACCGA | ACTACTCCGT | GAGCACCAAG | 720 |
| | AAGAAATGTT | | | | | | |

1405UP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCCAAATA | ACACCACGGT | TTTCATCGGC | GGGTTGTCTT | CGCTCGTGAC | TGAGGATGAG | 60 |
| | CTACGGGCTT | ACTTCCAGCC | ATTCCGACAG | ATAGTCTACG | TGAAAATCCC | GGTCGGCAAA | 120 |
| 35 | GGATGCGGCT | TTGTCCAGTA | CGTGGATCGG | AGTTCCGGCAG | AGAACCGCAT | CGCCAAGATG | 180 |
| | CAAGGATPTC | CAATTGGTAA | TTTCGAGGGTG | CGGCTCTCAT | GGGGCAGGAG | CGCAAAGCAA | 240 |
| | ACAGCCGCTA | TGCAGCAGGC | GTTTGCCATA | GCACTACAGC | AGCAGCAGCA | GCAGCAGCAG | 300 |
| | CAGCAGCAGC | AAGCCCCGCC | GCAGCATTTCC | CAGCAACATC | AGTATCAGCA | TCAACAGCAT | 360 |
| | CAACAGCAGC | CTCAACATGT | CATTTCTGCA | CAGCCGTTTC | TGCAGCAGCA | ATTGCAACTA | 420 |
| | CAATPTCCCT | ATCAGCATCA | ACCTGCCATG | CCGCAGGCCCT | ACGGTTACAC | ATTGGACTCG | 480 |
| 40 | TTGAGCGGCA | CCGGTTCCGA | ACATGTTCCA | ATGCAGGGTT | TTCTTTCCGG | TAATATCGGC | 540 |
| | TTCCAACCTT | CTACGGCAAT | TGATAGCTCT | CCAGCAACGA | CCTTGCTTCC | CAACCTTTCT | 600 |
| | TCGTTGGACT | ACTCTGGGTT | TCCACCTTCC | ACGTCAGCGT | TCACTTTTCA | CCCACGAAC | 660 |
| | CTTTAGGCAC | AGCTTTCACA | ACATCGCCTA | GATTCTCAAC | AATGGCAGCG | TGTCC | |

1406RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCTCCTTC | CAGTGACGCT | GATGCACAAC | TGCGGACCTC | AGCCCGCGTG | CCTCACGTGA | 60 |
| | CCACAGTGGG | CATTTTCTCA | GTTAGCGCTC | GTTTAGCTTA | GCTATACGAG | GGATGGCACC | 120 |
| | ACTTAGGCGC | TGCTGCGGAA | CCAGATACGA | TGAAGCCGCC | CAAATTCGAT | AGAATGCTGC | 180 |
| 50 | CTCGCTGAGC | CGCCGTCATA | GGGAAACGAC | CAAAGGTTCC | GTCTGCCGCA | TCGTATGTAT | 240 |
| | GTGTCTGTGT | ACGAGGACCG | AAAAGTTGAC | TTTAAACGAA | GTAGATTTTT | TTATTAGATA | 300 |
| | TTTAAAGCAG | TATGCGTTAA | CGAGCAGCTT | CGAAGGCGTA | TACCAAGGCT | CTGTGCGCTT | 360 |
| | ATCATTAGCA | GGGCGACATG | TCAGAAATCCT | TGCTACAGAC | AGTGGTGGCG | TACGTGGAGT | 420 |
| | TGGTGCTGCA | CCACTTCATG | GCGTTGTGCT | GGACGCAGCA | GCTGTCCATA | GTAATAGTGG | 480 |
| | CACCATTTCAT | ATACTCGCTG | GTGTGGCAGA | CGTTATATTC | ATTGAGGAAG | GATAGAGTAC | 540 |
| | CGTAGTGCC | GTTTCATGTA | CCCTGGGTGG | GTTCCGCGCT | CGGTATGGG | AGGGCTCCGT | 600 |
| 55 | ACGAGTTTTT | TGGCAAGTGC | AGCAGAAGTA | TGGCGATGTG | TTTCCGTTCA | TGCTGCTGGG | 660 |
| | GCGTGTGATG | ACGGTGTATC | TGGGGACGAA | GGGCCACGA | | | |

1406UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTCATT | AGAACGCGCG | GATTAGTCAA | AAAGTGCCGG | AATGTTCCAT | CCACTAGGCC | 60 |
| 5 | ATCTGCCTTC | ACCCACGGAT | TGCAAATGCA | GACAAGGTTT | ATTAGAATTA | TACCGATTGC | 120 |
| | CCAAACGTGC | CCTGCAGCAG | TAGGAGCTCG | GAGCTCACGA | CCGAGCGATC | CGCGCTCGGG | 180 |
| | TGCCATGTAG | TAAGACGAGC | CTACGCAGAC | ATTGGGGGCG | AGCTCCGGCA | CGGGTGTGGC | 240 |
| | CAGCCCGAAA | TGCATACAT | GTACGTTGTA | CCATTTGTCC | AGAAGAATGT | TCTCCGGCTT | 300 |
| | TAGGTGCGAA | TGATAGACGC | CGAGTCGGTG | GCAGTAGAAA | ATAACCTCGC | ACAGCTGCAG | 360 |
| | GAAGACCTTC | TTAATCAGTA | GGCCATCCTT | AGCAAAGACT | TGCTCGTTGA | CAATGGCTGA | 420 |
| | GAAAAGGTGC | CACGTGATGT | AATCCATAAC | AATAAATGTT | GCCAGGCTTG | ACTCCATCAC | 480 |
| 10 | CTGATGTATG | GTAACCAT | GTTCGTGGGT | GTGCACAGTC | AGGTGCATCA | GCAGCTCCTT | 540 |
| | ATAATGTGGC | GCGTGGGCCA | GCTGCTCTTG | GGATAATGTC | CGGATCGATT | CCAGGTCCAC | 600 |
| | AGATGGTAGA | TACAGCCGGT | TCTGGAAAGA | TTGAAGAAGT | GGTACAGCTG | CGTGGCGAAA | 660 |
| | ATTGTCGACC | GGCCTGACGC | CTCGTCTGCG | CTGCCGCTGT | GCTGCTTCA | | |

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1408RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCGCTT | ACCAAGCAAT | TACAGGAGAC | AGAAAAGAAG | GATAATAATT | TACCACAGAA | 60 |
| 45 | CTCCAAGCCT | GACAGAGCAG | CGATTTACAT | TCTGAGTCAC | ATGACAGCAG | ACTCTCTTTG | 120 |
| | CTTTGGAGCT | TCAATAAGCA | CCAATATGAA | TATGAATAGT | TTTAGATGCT | TTGTATAAAT | 180 |
| | ACCACTATTA | ACTTTATCTT | GATTAATATT | TATTATTTTG | TTATTTTATT | ATTTTATTAT | 240 |
| | TTTATTATTT | TATTATTTTA | TTATTTTATT | ATTTTATTAT | TTTATTATTT | ATTTTATTAT | 300 |
| | TTATTTTATT | ATTTATTTTA | TTATTTTATT | TATTATTTAT | TTATTTATTA | TTTATTTATT | 360 |
| | TGTTTGTTTG | TTTATTATTT | TTTTATTTAT | TACCTTTTTA | TTTTATGTTA | TTTTATTTTA | 420 |
| | TTTTATTTTT | ACTTAGTATA | TAATATTATA | TTATATCATA | GTATAGTTAT | ATTATGGTGA | 480 |
| 50 | CTTTATTCAT | TATATAGATT | GTATTTTGTG | AACATAATAT | ATATGCTATT | TCTATTTCTA | 540 |
| | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | 600 |
| | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTATTTTA | TTTTCACT | |

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1408UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCGCCCTT | CCATCGAAGA | GGGTACTGTT | TGATTATGGT | GATTTCTTGG | TGTGGGTTTCG | 60 |
| 5 | ACATTCAAGT | GCATAGTTGG | AGGTTACCGA | TAACCTTAGAT | TTTCTTATAA | ACGGTTACCC | 120 |
| | TACGCTCTCG | CGGTTGGCGG | ATATACTGAT | TAACAGTTGG | AGAGCCTTGG | CGGGATACCTG | 180 |
| | TGAATGCCCTT | CTCTTCAACA | TTATTTGAAT | ATGCAAACGT | TATTTAAATT | AAGTAACACA | 240 |
| | CTTGTGCTTA | TATATTCAAT | TGTTCCAAGC | GCGCCATCCA | ACATGGCGAT | TCTCATCTAG | 300 |
| | TTTGAGAACT | TGCGTCTATT | CTTATTCTGT | GTACGGCAAC | GGTATTAGGA | GAGACTTCGA | 360 |
| | GTTTTTGGAA | CTTCAAAGTC | AATACTTCAT | CATCGTAAGT | AGCAGTTACT | TGGCCTAAAC | 420 |
| 10 | CAGTGCCAC | CTTTGTAGGG | AGCCTGATTG | TTCCGCCGAA | CTCCGGGTTT | GTGGGTTCTC | 480 |
| | CAGTAGTCCA | CGCGTCTGTA | TTCTCATCCG | TATTAATGGC | TGGCACGACA | ATAGAAAGAA | 540 |
| | CTGCATCATT | CATGTCTCGA | TGCAGGGCAA | TATCTATGTG | GTCTTGAGAC | ATTACGCCAG | 600 |
| | GAACCTGAT | GTGGATCTCA | TAGGCGTCCG | AACGCTCCAA | AATTAATAAT | GAAGGAAGAA | 660 |
| | CGTCAGAAAT | TGCGCGCGAG | AGCTTGATT | CTGAAC TAGC | TGCCACACTC | TCAGCTTTGT | 720 |
| | GT | | | | | | |

1409RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCTGGCT | ATCTACCTGC | TGCTGGGCGC | GCTGCACGCC | ATACTAGGGG | GCACATTCAG | 60 |
| 20 | CGGATTAATG | TATGTGGAAT | ATGCGCGAGT | AGAAAACGCA | CGTKCATGTG | ACAACAAGGC | 120 |
| | CACCGGACTA | ACCAATTTAC | AGAACC GCCG | CTATTTACAG | GGCTGCCCTG | ATCGCGATGA | 180 |
| | GTACTTGGAT | TCCGCTTGCA | TCCGCAGTCG | TACAGGCCCT | GTACCTGCTA | TGCGCAGCAT | 240 |
| | TTGTGGCACA | ATCCAAGCTG | ATATAGGATA | CAGACATCCA | GCAAGACGCT | GGATGGATCG | 300 |
| | GTGTATCCC | TCTGTGTCAT | CAATACGCTA | TCCGCCGCCG | GCAGCTTATT | GTCACGTGAT | 360 |
| | TCCGTATCTT | GTGGAGCACC | CAGACATATG | TTGCTGAGCC | TCCCTCAGCT | ATATAAGCGT | 420 |
| | CGAAGAAGGG | CGCGAGTCGA | ATACATGTCT | CTGGCGCTGT | GTGCCCTCGT | CAGTCCCTCCG | 480 |
| 25 | CGATGTGTC | AACTCTCATA | AACCGTTCCCT | TGGCAACTAT | CCGTACAGAG | CTTGCCTTTT | 540 |
| | TGGTTGATT | CGGGGTCAAT | ACGCGGCAGC | AGTCAGAGCA | GATTGAATCT | AATCTTCCAA | 600 |
| | ACCCTAACGA | AGCCCTCCGT | GGCGCTCCCG | CAATAACGC | AGGGCCTGTG | GAGTATGTGG | 660 |
| | AGGCACCTTA | TGCGTTTCAG | GCGCAACAGC | CTGGTTGACC | TAGACTTCAA | | |

1409UP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCGGGGAC | CAGAAAACCA | CACAAC TGGT | CCTTGAGCGC | GCGGTGGGCG | TATACGCTGC | 60 |
| | TACTGTCTCT | TCTTGTGTA | GCTGTGGCCT | ACGGCTCTGC | GTGCGTAACC | GCTGGCATGT | 120 |
| | GGCTCATCAC | CAGAAAATAT | GATGTCTCAA | CCGAAGTTGC | AATATTGTCC | TGTTCCCTGG | 180 |
| 35 | TGGTTCTGGG | CTACGGTGTT | GGACAGCTGG | TTTGGGCGCC | TCTGTCAGAC | CTGTACGGCC | 240 |
| | GGCGGATAAC | GTACTTCACA | TCTCTATTCC | TTACGTGGT | ATTTAATATT | CCATGTGCGG | 300 |
| | TGGCTCCCAA | CATCCAGACG | CTTTTGGTTT | GCAGGTTTAT | TTGCGGCGTC | CTGTGCTCGT | 360 |
| | CTGGACTATG | CCTAGTCGGC | GGCTCTCTCG | CCGATATGTT | TCCAGCCGAC | CTGCGTGGGT | 420 |
| | TGACCATCGC | GTTCTTTGCA | TTTGACCAT | ATGGAGGTCC | GGTATTTGCG | CCACTTATAA | 480 |
| | ACGGATTTCAT | CGCTGTCCGC | ACAGAGAGGC | TTGACCTTAT | CTTTTGGGTC | AACATGGCGT | 540 |
| 40 | TAGCCGGAGC | TGTTTGGCTG | TTAGTCGCAC | TGGTGCCCGA | AACATATGCG | CCAATTATTT | 600 |
| | TGAAACGGCG | CGCAGAGAAG | CTGAGGAAAC | TAACAGGCAA | CCAGAATATA | ATGACAGAAC | 660 |
| | AGGAAGCACA | GGGACTCTCC | CTGTCCGCAT | GGTGACAGCT | TGTCTACTGA | GACCG | |

1410RP

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|----|-------------|-------------|-------------|------------|-------------|-------------|-----|
| 45 | GATCAATTTCG | TCACATTTTCG | CGTATGCAAT | TTCTACCATC | TCCTCTTTGG | TAGCCTTTAA | 60 |
| | TTCCACTCCT | GGTGTAACAT | CAC TAATGCC | AATAGAAAAG | CCTCTATTTC | CCAGATAGCG | 120 |
| | CGCACAAAGC | TTTGCCATCC | TATTCATAGC | CTGCGTTGCT | TCTTGTGGCC | CGAAATCTCT | 180 |
| | CAGAATAGTA | TAGAATACGG | AATGTTTCTT | ACCATCACCA | AGCACAGACT | TATCCATGAC | 240 |
| | ACCAGACAGA | ATATTAGAGC | CTCTGATAAC | TACATAACCA | TCATTAGCAG | ACATCTCATT | 300 |
| 50 | TGGATAGGCC | TTATTCTTAG | GCGCAATATA | AACCTTATTC | TTTGCAATCCA | AATTAATAAT | 360 |
| | AACGGGAGAT | TTCTTGTTCG | GTTTATTCAA | TAGAGAGAAG | AGCTGTTTTC | CAGTCCATAA | 420 |
| | GTAGTGTGGT | CGCATAATTG | CAGGCGGCGG | TATGTCAAAC | TGCAGGTTGC | CGTCAGACAT | 480 |
| | CATAGAAAGC | ATTTGGACAA | AAGTTGCGCG | GTCGAAGAAG | GAGTCTTTGT | GAGAAATCAA | 540 |
| | ATATGATCCA | GTGATGAAAT | CCTGGGTAGC | TGCAATGATC | GGTTCACCGG | ATTTCCGGAGT | 600 |
| | CAATAAATTG | TTTTTGACAC | CCATAAGGTT | GATTGCTTCC | GGGCGAOCCT | CTTCCGTTTG | 660 |
| 55 | AGGAACATGC | AAGTTTCATTT | CGTCACCATC | AAAATCGGCG | TTGTAGGGG | | |

1410UP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCTGAGCC | CTAGCATCTT | CGGTTGGAAG | CGGGAACCTCT | ATTTTCCTAT | CCAAACGACC | 60 |
| | GGAAACGAGA | AGCGCTGGAT | CAAAGACATC | GACTCTATTTC | GTAGCAGCCA | AGACTTTTAC | 120 |
| 5 | CCTATCGTCA | GAACCAAAGC | CATCTAGTTG | GTTTAGCAAC | TCAAGCATGG | TTCTCTGCAC | 180 |
| | CTCTCTATCA | CCGGACTTCT | CCGAGTCAAA | ACGCTTAGTT | CCAATAGCAT | CCAACTCATC | 240 |
| | GATGAAGATA | ATGGTAGGTG | CTTTTTCCTT | CGCCAAGGCA | AAGGCGTCCG | GGACCAGCTT | 300 |
| | CGCACTTCA | CCTATGAACA | TCTGGACCAA | CTGCGGAGCG | GCCAGCTTCA | AAAAAGTCGC | 360 |
| | ATTGGTCTGA | GCGGCACAGG | CTCTTGCCAG | AAGCGTCTTG | CCGGTACCCG | GTGGACCATA | 420 |
| | CATCAGAGCA | CCTTTCGGTG | CCCTAATACC | CATATCCTTG | AACCTGTCTG | CCTGCTTCAT | 480 |
| 10 | GGGTAACACG | ATTGCTTCGA | CTAGTTCCCTC | GATCTGCTTG | TCTAGCCAC | CAACGTCGGA | 540 |
| | GTATGTTTCC | GTAGGCTTGT | CATCCACTTC | CATAGCTTTC | ACTCTAGAGT | CAAACCTCGA | 600 |
| | AGGAAGCGTA | TCCAAGATCA | GGTACGAGTC | CTTGTTCACA | CCCACCAGGT | CGTTCGGCTT | 660 |
| | CAACTGCTTA | AGGGTCCACT | AGCCCAACCA | TGGGGAGAAA | AACGGTTTGT | CGCGACGAAG | 720 |
| | TTTCACA | | | | | | |

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1412RP

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|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCTGGAAC | CAGGATGACT | GTCTGGCAGT | TAACTCGGGC | GACCAGATTTC | GCTTCCTACA | 60 |
| | CAACTTCTGC | TCCGGTGGCC | ACGGTATTTTC | CATCGGGTCT | GTTGGCCACA | AGAAGGGCGA | 120 |
| | CTCAGTCACC | AACCTTCCTCG | CACAGGACAA | CCAGGTCGTC | GAGTCGGACA | ACGGTCTAAG | 180 |
| | AATCAAGACT | TTCGTGGGCG | CCATTGGCAA | GGTCGACAAC | ATCAAGTTCA | TCAACAACAA | 240 |
| | GGTCAAGAAC | ATCCGCAAGT | TGGCTATCGT | CATCCAGGGC | GACTACAAGG | ACGGCACCAC | 300 |
| 50 | CACCGGCACC | CCAACCGGCG | GCTGCCCAAT | CACCAACCTA | GAGGTCAGAG | GCAACACCGG | 360 |
| | TAACACCGTC | GGCAAGGGCA | GCAAGCTCAA | GATTCCTCGTC | AAGAATGCGT | CTAAGTGGAC | 420 |
| | CTTCGCCGAC | AACAACATTT | TGGGCAAGAC | CTTCCCAGGC | TGCTCTGGCG | CACCTAACGG | 480 |
| | CATCAAGTGC | TAAGCGCCTT | TTTTTTTTTT | GGCTGCGCCT | CGAAACTATT | ACTATGAACA | 540 |
| | TTGGCGTCCA | CCGCCACTAC | AAAAGCATCG | GGTCTATCCC | ATTATAACAT | TAAAATCTCA | 600 |
| 55 | GTTGATATTA | TATTTTACAT | TGGAATGTCC | TTAGGGCTTT | TTTATATTAT | ATAAACTTTA | 660 |

GATTAAAAAA ACGAGGTACA AGCAGATCAA CGAAGCTTTT CGGCCAGCCA

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1412UP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGAACGA | GATAAACAGA | GGTATTGGTT | GTTATCACAA | ACATATAATC | CTGGGGATAC | 60 |
| | AACGCTGTCA | AACTCTGGGC | CTTCTGCTTT | GTGTCTAGAT | TCCTTTTGCA | GGCTTGAGAA | 120 |
| 5 | TAACCTGTAC | AATTTTTTGA | TGTGGTTAGT | AAGAGACGCA | TCAACGATAT | CATCGCACAA | 180 |
| | AGTTCCGGTTT | CTTTCCCGTG | CAAGCGGGAA | TGCGCCTTCA | TTACTTCCCG | AATCTTCTCC | 240 |
| | ATGAGTCGAT | GGTCTCGGCG | TTGAAGCTTG | TAGTGTCAAA | GGTTCCTATTC | TTGGAGAAGG | 300 |
| | TTCTATCTCT | ATTTTTTTGTC | CCCAGAAAGA | ATCATTTGAC | ATCCAATATC | TTGTAACTTC | 360 |
| | CCTGGGATGT | AATCTTTGAA | TAGCGGGGTT | TCGGTACAAG | CTGCTACCTG | CCAGATTATT | 420 |
| 10 | ATTTAACGAT | TCTTCTGGTC | CGTGAAGGTG | ACGTATAAGG | TGGACGCTAT | TGGGTTTCTT | 480 |
| | TTCCAACATA | GGTTGTTTCAT | CAAATGAGAG | GTAAAATGGT | TCCTGCTGGG | AACGCGACGA | 540 |
| | AGGCTCCTTT | ACTTTAAGTC | TTAACAAGGC | GTCAACATAT | TCTTTTTGAA | TCGTTCTAGA | 600 |
| | AGTGGTTTACA | AAATCCATAT | TGCGTCTTAG | ATCTGACTCC | TGAACGCCTT | TGTCTAGTTT | 660 |
| | CTCATCCCCC | AGTGGTAAAT | CTGAACGAGG | GACAAAGTAC | ATGCAACTGT | CCTCATCATT | 720 |
| | GTAAGTCA | | | | | | |

15

1413RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGCTGG | GAGTGACTION | GGAAGCTTTG | TCAGTACCTG | GAATGAAAAA | ACAGTCTCTG | 60 |
| | ACAGAGCGGG | GAAGCTGGGC | CTGATGGTCG | TTACAGCGGA | CCAGTTCAAA | GAATATGAAC | 120 |
| 20 | AATTGAAGAC | TGTCAGCCCC | AAGGATCAAC | TTGCTCAGCA | GGCGAAGGAG | CTAGATATGG | 180 |
| | TGCTAATTGA | TGCTGCTGAA | CTATACGAAT | TAAGAAGCAA | AGTTTCCGAT | GGACTGTCTG | 240 |
| | GCGATTTGAA | CTCTGACTTT | GTCTTGAGCA | AGGAGATCAT | TCTTGAGAAT | GCTCATAGTT | 300 |
| | ATGGTTTAAC | GGTTCTTCAA | ACGGAAGAGT | ATCTTCAATT | ACAGAGTAGT | TTGGAGAGAG | 360 |
| | AACAGGTAAC | GTCTTACAAC | ATTGCCGAGA | AAGCAACTAC | AATTGGCTAC | GTTGCACTTC | 420 |
| | CAAGAACCAG | GTACGATGAA | CTTGTAGCTT | CGCAAGCTTC | TACGAAAGAA | CAGAATTTTG | 480 |
| 25 | AGGTATACGG | GGCGGAAAA | GGCAAGGTCA | TAGTGGATAA | ATCTGAGTAT | CACGATTTGA | 540 |
| | AGATCAAAGC | TATCCCAGTG | ATTTCAACAT | TGCCTCAAAT | GAGCAAAGAG | CAGATGGTTG | 600 |
| | AAAAGGCCAA | GGAACCTCGA | ATGGTAGCTT | TGCTCATTGA | CGAGTATGAG | AAGTTAAAGA | 660 |
| | GCCCTATTTT | CGATAACGCT | TTGAATGCAA | CAGCGAAGGG | ACCGTGAAAA | GTTTGTCTCT | 720 |
| | CTAAAGGAGA | GT | | | | | |

30

1413UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCAGTTT | TAGGTCCACT | TCAAACCTGGA | TTTTCGGGTA | CTCCCCGCAC | ACCACCGTCA | 60 |
| | AGTCATCGGC | ATAGATGGAC | TCAAGCACTT | CCAGCTCCTG | CTTTTGCTCC | TCTTGATAGT | 120 |
| 35 | CCATACCTAT | CCGCTCGACC | AACTATGAGC | CCACGCGCAG | CTTAGGGCTA | GACCGTTACA | 180 |
| | GCTGCAGGTG | ACCGTCCGGG | GGACGATGCG | CTATCGCTGG | CGAAATTTTT | CGCCTATACC | 240 |
| | ACCACTTATG | TTACCCGGTC | TATAGTGCTG | CTCTCCGACC | TCACTGATGG | TGCTGTCCCG | 300 |
| | CGGGGACTGC | TGCTCTGTCG | GGCCAAATCC | CCACCGCTCT | GAACGCTCGT | TCCATCTGCG | 360 |
| | TCACGGGTTG | ACCGAACGGG | AATTGCGCGC | CCCGAGAAAT | CTTGGCGAAC | CATGCTGCAC | 420 |
| | GTAGCCTTAC | TGCCAAAATT | AAGCCGTCAA | ATGGCTGGCT | ATCCTTCCAC | GCACGCCCAT | 480 |
| 40 | AGTCACCTGA | AGCTGGCTGG | AACAGTGGTC | ACGCAGCTTT | CTGACGCATA | CCAGGAACAG | 540 |
| | GTGGCCGAGC | CCGAGGCCAA | CGGTGGGTGA | TTATGTCAGC | GACTTTTGGT | GGATTACGTA | 600 |
| | AATCTGGGTG | CATGCTGGC | ACGACAGCGC | GCATCGCACC | CCAAGACAAA | CGTGCCACAC | 660 |
| | CCATTCAATA | TTAGAGGACT | TTGCTGCACA | CCCTAATCAT | CCGTTGGGTT | GTGAGATACG | 720 |
| | C | | | | | | |

45

1414RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCGTAAT | CGAGTTTAGC | TTCCGTGTGCG | CATCATCGAC | AGGTGGAAAT | GCTCGCTTGT | 60 |
| | CGGCCGTCTG | AAAACGAGTC | AGATGTGCAG | AGAGGCTGAA | GTCCAACATT | TTAACCACCG | 120 |
| 50 | CTGAAGACCG | GGAATAGTAG | GGCAACGTAG | TTCCGCGAAC | TTCAAGTTTG | TTTTCTTTTA | 180 |
| | ATTTAATGGA | CTACACCAAA | AAAAGCTCAA | CAACAGTCCC | AATTAGTTCT | GCTAGAAGAT | 240 |
| | GCAAAACCGT | TAGTGATCAG | TAAGTATGTG | TACTCGTGTA | CTCGTCTGTC | ACTGCAAGT | 300 |
| | TCGCGTCACA | ACTAGCTGTG | AACCATGGTT | TGAAAAAATA | TAATGATAAT | GATTCGCCCC | 360 |
| | AGGATCGAAT | TGGGGACGTT | CTGCGTGTTA | AGCAGATGCC | ATAACCGACT | AGACCACGGA | 420 |
| | ACCACTTATA | AGCCCTTAAT | TATACTCAGA | TACTAGTGAC | CATTTTCTAG | TCACATGATG | 480 |
| 55 | CTAGTTTCTT | GAATAAAGAA | TGCACGTGAT | TACCAAACTT | GTATTTACTA | GGTAAATATG | 540 |
| | CTTGGTGAAT | AAGTACGTAG | ATATTATATA | TGTATACATA | TGCATTTTAG | ATGCAATAAA | 600 |

AGCTCTATTA TGTATGCCCG CGGAGCTTTA AGCCAGTGTG TTTTCCGATT GTTTTGTGGA
 TGCAATGGTC TTTCATATAA AGCCTGACTT TCATCTTTTT CGTGCTTGA TGTTAACTTC
 CAACTCTGA

660
 720

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1414UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGCCC | CGCGGGCGCA | CCGCGGCCAG | GGGCCAAAA | GGAGAGCGCC | CGCGGTGGCG | 60 |
| | GCCGCCACTG | CGGCGGTGTC | ACAAGACATA | TATGTCGGTA | TATAAGACCG | CGGGTGCCGC | 120 |
| 5 | GTGGCTGCCG | TGCAGAAGCC | GCCGTGCGCG | CGCGGGCAGA | GATTTCTAAT | ACTCTGCGTT | 180 |
| | TTCTTTTTCG | AGCGCCTGGT | ATATAAGTTC | GGGCTGTGTC | GCGGGCCGTC | GGCGCCGTTT | 240 |
| | GCCAGGGAGA | TAGGGGAGCA | TTCCGCAGCA | GCCGTCTGTA | GCCGGACCAG | TACGACAGGG | 300 |
| | ACGCAGGACA | CAAAGCAGGC | GACGGCGAGT | GCGCGGGATC | AGCAGCGCAC | AGCGAGCCAG | 360 |
| | GGGTATAAGA | GCCGCGGTAC | GAGGCGGCTG | GTAGGTATAG | GGCCAGATGG | AGGTGGGTGC | 420 |
| | TAACGGGATT | TTTCTGCACC | AGAACGACTC | TGCGGAGACG | ATCAAGCTGG | AGATGTCCGC | 480 |
| 10 | TGTCGGCGGT | TCGGGGAGCG | CAGGCAGCGG | CATCGCGATG | GGCAGCGCGG | ACGACGAGCT | 540 |
| | GACGAAGTGC | ATCAGCGACC | TGAACATCTT | CGATCTGCTG | CACAACAACC | CGCCGTGAG | 600 |
| | TTCCGACGAC | AACAAGGAGG | GTGGGCGGCG | GGCGGCTGC | | | |

1415RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTGGTT | CTGTTATCGA | AACGTTGGTT | GCTAGAACAT | TGCGCCAGGT | TGAAAGTAGC | 60 |
| | CAGAGCATGA | TACGAATTCT | GGGATTATCG | GCTACATTAC | CTAACTTCTT | CGACGTGCGA | 120 |
| | GACTTTTTCG | GGGTTAACAG | ACATGTGGGA | ATGTTTTATT | TTGATCAATC | GTTCCGTCCA | 180 |
| | AAACCCTTAG | AACAGCAGCT | GCTTGGTTGC | AGAGGCAAGG | CGGGCAGCAA | ACAAGGAAGG | 240 |
| 20 | GAAGATCTAG | ATAAGGTTTC | ATATGAAAAG | CTTTATGAAC | ATGTCTTAAA | TGGCTCCAG | 300 |
| | GTCATGGTTT | TTGTGCACTC | AAGGAAGGAT | ACTGTGCGCA | CTGCGCGGAA | TTACATTTCT | 360 |
| | TTTGCCCAAG | CCAACCAACA | GTCCGATGTT | TTCTTAAGTA | GCGATCAAAG | CGTTACCAAG | 420 |
| | TTTCCCGAG | ACATCTCCAA | ACATAAGGAT | AGAGATATGA | AGGAGCTCTT | CCAACATGGG | 480 |
| | TTTGGTATAC | ATCATGTGGG | TATGTCTCGA | TCTGATAGAA | ATCTAACAGA | AAAGATGTTT | 540 |
| | AAAGAGGGAG | CTATTAATGT | GCTTATCTGT | ACAGCGACGC | TGGCCTGGGG | TGTGAACCTA | 600 |
| 25 | CCGGCTGATG | TTGTCTTGAT | AAAGGGAAC | CAGATATMTG | ACTCTAAAAA | AGGTGGTTTT | 660 |
| | ATAGATTTGG | GGATTCTGAT | GTGATACA | | | | |

1415UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCAGG | AGTTGCTCAC | CTTGGAACC | AATTGCGAAC | CACAATTCCT | TCTGAGCCTT | 60 |
| | TGGAAATTTG | TCACACCAAA | CTCTGAAACC | GTCTTTGTAA | CTTTCATTAT | GGCGGAATGC | 120 |
| | TACAAGTGTC | AACTTATCAG | GGTTGGATTG | GTCTTAAAA | TGTACCTTAT | CCAGAACAGG | 180 |
| | AAGCATCGAG | GCTTCACGTA | TAAACTTATC | TTTCGCGGCT | CCTTGAATGT | TATGTCACGC | 240 |
| | GCACACTGAG | CACAACGCAG | CATAGCCCAT | CCGACCTAGC | TTCTCCAACG | TCAGCATCTC | 300 |
| 35 | GCCACTATAC | TCATAGGGAA | AGCCATCATC | CCCGAATAAT | TGGGGGTCTA | AGCGTTGTAG | 360 |
| | CGTAATTCCA | GGCAAAGCAG | TCACCGGGTT | GTCTTCATAC | CATGTTCCCT | GCTTAATGCA | 420 |
| | TTCGATGGCT | TCATAACTAG | TCATAACTGT | CTCGAGGTAC | CCAGATTCCG | TTGCAATATC | 480 |
| | GATATAGGCC | TGTAGAATAC | GTAGCGCCTG | GTGAGAACT | GAGATCGTAT | CTTGGTAATA | 540 |
| | ATCTGCAATT | GCTAAGTCAG | CTCTACTTAG | GTAAGCTTGT | AAAAGCAAAA | AGGCTTTGAC | 600 |
| | ATGGGGGTCC | CATATTGGTA | ACTCTTGTTT | TCTGTAAAA | GTACTTTCAA | CGGAATATCT | 660 |
| 40 | AAGAGTTTCT | GACATTTCAA | CATTCATGAT | AGTCTCGCCC | CCC | | |

1416RP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCATCATT | ATTTCTGCG | TTGCTGCCGA | CGATTGGAAG | GGCGGGGTG | GTTTCTTGAA | 60 |
| | GGATTTTCAGG | CGTATGAATG | TTGCTCTCAC | CAGAGCAAAG | GCCAGTCTCT | GGATCCTGGG | 120 |
| 45 | TCACCATAAA | TCTTTATACA | AGAACAAGCT | ATGGATGCAT | TTGATTTTCA | ATGCGAAAGG | 180 |
| | GCGTGAAGTC | CTCCAAATGG | CATGTCCGGG | CTTCTTGAT | CCACGGAACA | GAGCCGCCCA | 240 |
| | GGATGCTCTT | CATAGGTTCA | AAAATCACC | TAATTTATATC | GAGAACGCG | ATGATTTATG | 300 |
| | GCCTGAACCG | GTGATGACTA | AATCAAGAGG | ACGCAATAGA | TCATCCAGAA | AACGCAAAACA | 360 |
| | TATGGAAGAT | AATCCAGATG | ATAACTACGA | TCCCGTTGCT | GAAATCAAGA | AGGAAAAATCA | 420 |
| 50 | AAGAGAAAGC | AACACAGGCA | CCGGTGGTTA | CCGTGCGGAT | ACATCTAACC | ACAGATTGGC | 480 |
| | ACCTGCTAGG | AACGATAGCA | AGAAGGCCAA | GACGTGCTCC | AATGCCCGCG | GTATTTCCGA | 540 |
| | GGCTACTTCA | GAGGATGGTG | ATCGAGGTCA | GAAAGGACAT | GGAACCTAAG | AGAAGTCTTC | 600 |
| | CATATTCGGG | AATTTTATGC | CCCGAGTTGA | TGACGCGACC | CCTGCTGCCC | ATGTGTACGA | 660 |
| | CCCTAAGGAA | CGCAAGCCCA | AGAATGCTGC | ATCCGCTTAA | GCGGCTGGCC | TTGGGAAC | |

1416UP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCTTGCCC | GGCAAGACCA | GGAAGTCGTT | GTACGTCAAC | CCGCCCCGCG | TCTTGGAGTC | 60 |
| | CATCAACTGC | TCCACGGGAC | AGCCCGTCCT | TCCTCGGCGTA | CGTCGCCAGG | TGCTCCAGTG | 120 |
| 5 | CCGTGGCTGC | GTCTCTGTAA | GTCAITGCGC | TTTGTTCGGC | GTGCTATGAA | GAGAAGGAGT | 180 |
| | CAACACTAAA | CCCAAGCTCT | CAAGTTGACC | CATCCATCAA | GTAACATATCC | CGAACAGACG | 240 |
| | CCGGTAAACC | CAGCTGGGAT | TTGGCGCATC | TAGAAAACCT | ATTTATACTG | CAGCTCATCG | 300 |
| | CTGCAAACTT | TTACGTAATA | AGAAACGATG | ATCCAGCGGG | GGCCAAAAAG | CAATGGGCCCT | 360 |
| | GCGCCGACAG | ATGCGAGCCC | TACCGGCGCG | CAGCACCAGG | TAGGAGCTGT | CAGGGGCCCTA | 420 |
| | GAACGCGCGC | ACGCTAGACG | GGCTCCTCGG | GGGCCGCGCG | AGGCGTCCGA | CGGGCGCCTC | 480 |
| 10 | GCAGCAGCAG | GCGTGCCAGG | CGGACCAAAA | GACCGACCAG | CCAGCGCAGC | AGTCTGTAGA | 540 |
| | CGGCGCGGAG | CAGGCGAACG | GCCAGGAATA | CAGTCCAGAG | CACGCGCGAG | AGCAGCAGGA | 600 |
| | AGTTGAACAC | GCCGTCCATG | CCCACGCGCG | CACAAACGGG | AACAGCGCCA | GCGCGCGCTC | 660 |
| | GCAGAGCGGC | TGCAGGAATG | CGACGACGGA | CAGGAACGGC | AGGATAGGAC | TA | |

1417RP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCCCTTG | GCGTCGTCGT | TGACCAGGTA | GCGGCGCTGT | AGCCCGAAGA | AGCCGGACAT | 60 |
| | CCGGTCTGAC | GCGGTCTGTA | GCGGACGCGC | CATCATGCGC | GCGCTACTGG | AGATCACGCG | 120 |
| | CCGGTACAGG | GGCCAGTCCT | TGTCGATTCC | GACGCCGGGC | GCGTAGCGCG | TGCCAGCAC | 180 |
| 20 | GAACGGATGT | GTGCGTAGTG | AGTCCAGAAG | CAGCGGTACG | CTCTCTGGCG | GATGCTGCAG | 240 |
| | GTCCGCGTCC | ATGCACACCA | GGTACTCGCC | CTTGGCCTCG | TAGAAGCCCT | TGAGCACCGC | 300 |
| | ACTCGACAGC | CCGCGCTCGT | CCGTGCGCAC | GATGATCCGC | ACGTTGTAGC | CCTGCTTGGC | 360 |
| | GAGCGGCTCC | ACCTCTTCCA | CAGACCCGTC | CTGGGAGTTG | TCGTGACAAA | AGATCAGCTC | 420 |
| | AGTCTTCTTG | GAGTCCGCGT | TACCGAGCGC | GGCAAACAGC | CGCGTGGCAA | GGGGCTTGAT | 480 |
| | GTTGGGCGCTT | TCGTGGTAGG | CCGGCACGAC | CACAGAGTCT | CGATGCTCAT | GGCGCTCGTA | 540 |
| 25 | TGGTCTTTAA | TGTAGTGAGT | AGCGAACGTC | GGTAGCTGTT | TCGCAAAATA | GTGAGGCGCTG | 600 |
| | CGCGCCTAAT | GTCTGTCTCT | TATCGTTGCT | TTTTGGTTCTG | TGTACGCGGG | TTACCCGGCC | 660 |
| | ACCAGGCTAG | ACAGCGAGAC | CCGCGGTGAG | CAGCCCACGA | CCAAGAAGCG | CTGTA | |

1417UP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTGCGTA | GGTAGTAGAT | GAATTGAGGG | TATAGGGAAA | AGTTTGGTGC | CAAGCGGAAG | 60 |
| | GAGCGGGGGT | CGCCCTTGTT | GTAGTCGGCG | TACTTCTGGC | AAAGCTTGAT | CAAAGTTCTA | 120 |
| | TCGATCCACC | GGATGACGTC | AGCGCCATCA | TCGGAATCTG | CCTTATCGAC | TGCAACACGC | 180 |
| | GCCATTAGTA | CAGCAGCGGC | CTCCTGGTCA | AAGGAAGCAG | CGATTGCCGG | GTTACCGAAT | 240 |
| 35 | GGCAACATCT | GGTTAGCAAC | TGTAGTCACT | CTGACACGGT | TGGTACCAGA | TGCATGCTGG | 300 |
| | TATGCAGTAA | TGAATTGGGT | GTATGCCAAT | TTTGGTCTGT | CCCCCATGAG | GCTGGCAGTT | 360 |
| | GCAGCGGTAT | TTGCAATCTC | GAAAAAGATA | GCCTAAGAGT | GGTGAGGGCT | CAAGGACGCC | 420 |
| | ATTTTCCATG | TAGAAGTGCC | CCCAATACCG | ATTTCTGAAT | CGCTCACGTT | CTGTGCATCA | 480 |
| | ACGTTAACCG | TGCAAGCATG | GCCAAATCAGT | CCCTGCAGCT | TTAGATCTGC | ACTGGTTTTA | 540 |
| | ATGCACATGG | AAGCATTGAA | CGCCATGGTT | AGGTACCCCTC | CTCATCTTTA | GAAAAACAGTC | 600 |
| 40 | TGATGAAAGA | TTGCTTGAAG | ATGGCCGTCG | AGAAATGCGTC | AGTCAACAAC | AAAACACCAC | 660 |
| | CAGTGGAGTC | GGTCAACTTC | TTCATCTCAG | ACATACAACC | TGGTCGTAGC | ATCCA | |

1418RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCGCGAG | ATTCATCGTG | GACCCGCCAC | AGGCAATTAC | TATAACAACA | TCCTGCCGTTG | 60 |
| | TTAAAGGACC | TAACCTCAGC | TCAAGTATTT | CAGGATGATA | TCCTAGATGA | AGAGCTGCGC | 120 |
| | CACACGCTGG | TTCCGTTACA | ATATTGCTCT | CTTCCGCAAA | ATTTAAACAT | GTCTGTACTA | 180 |
| | CAGCGAGCTG | GTCAAGCACA | ACAGATTTTG | TCCTGTATTT | TTGGGCCTAA | CTCAGAGTAA | 240 |
| | GATCCGTAC | GAAAGATGTG | CATAAAGAAG | TAGCAACGCT | TTTAGGATTC | ATCGAAACGT | 300 |
| | TCCTGCCGAG | CAGCAAAAGAT | CTGTGCAAAA | CCTCGCACCC | CTCTGTTTCC | ACTGCTACAA | 360 |
| 50 | CAGGGATAGA | GTCTGCCAAA | CCATGTTTCT | CCAGCCCAT | TACAATCCCA | TTATATAACC | 420 |
| | CCCCGCCACC | TACGCTGCAG | ACGATACCTT | TCACGCTCTC | CAATTGCACG | CCTTGGAGAT | 480 |
| | GCAGTGCTTC | TACTACTTCA | TCTACCATTG | TTGCATGCCC | TTCCAGATG | AGTGGGTGTG | 540 |
| | CGAATGGATG | TGCATATATC | GGAGCGACTT | TTTCTAAAT | CACATTCCCC | ATCAACTCGG | 600 |
| | AACGTAAGTA | GTCAATCGCTC | TCTTTCAATA | CACITCCCAT | TGATATCACA | TCTGCCCCCG | 660 |
| 55 | TTGACCGTAT | CCGCTCTACC | ATCCGCCGTC | GAGTAGTTTC | AGGCACCTACC | ACTGTGCAAG | 720 |
| | GTATCCTA | | | | | | |

1418UP

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|----|-------------|-------------|-------------|-------------|------------|-------------|-----|
| | GATCATCTGC | GTGCGATACT | GGCAAAAAAT | GAGAGACAGC | ATGATGAAAA | TATAGTTAAT | 60 |
| | AAGATATTGC | ATGATATAAG | CACAGGCGGG | TTTCGTGCGA | GAGGAAAGGG | TGCACTTGAT | 120 |
| 5 | CTGGAAATGA | GTGAAAATGA | AGACCAAGAG | TTACAACAGT | TTAGACAGAA | AAGACGAGAA | 180 |
| | CTTTTGAAAC | AAAAGATATT | GGAAAAATGGT | GATACTAGCA | AGCTCGTATC | TAACCCCAAG | 240 |
| | TCATACGCCCT | TTTTTCAGAC | GATGGTGGAC | GATGTTACTG | AAGCATCATT | TGGAAATACA | 300 |
| | TTTGATGCCA | ATATAGATGA | AAAAACAGAT | CCATCTGCTG | CAGGTCGGAA | AATTGTCTATA | 360 |
| | TCAGAACAAAT | TTGTAAAGGA | AACCCGTGCA | TTCTTTGTGCA | GCAAGAGTGG | CGACTCAGAA | 420 |
| | ATCCCTGCAG | AAACTAAATC | TATTTTCATCC | AGCACAGTTG | AACGTGAAGA | AATTCAAGAC | 480 |
| 10 | CTTCCATACA | TTGAAGCAAA | ATAGTAACAT | TAAACATTTG | AAAGGAATCT | AGAACTTCCT | 540 |
| | GCTCAGATGG | CTGAACCTCAG | CAGTGGAGAT | GAAGGTGATT | ACGGCTTTTC | TTTAGATAGA | 600 |
| | TTCCGTCTGC | GGCAAAAAGT | TTAATAATGG | AACTAACGTC | GACGATAAGT | TTAAAAGTGG | 660 |
| | CACCAAGGCA | GTGCGAATCT | TAAAGGCAAT | AAGACAATTG | GCGGTCAAAA | GCC | |

1419RP

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|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTGGGGA | GTCTCATCGA | AACGTATTCTG | ATGAGGCTTG | GTGGTGGCAG | GCGGCTCCTC | 60 |
| | GCTCGATTGG | CGAGCTGGTG | ATGACTTCCG | ACTTCTCCGG | GCCGGAAAAT | TCGTGTCTAGA | 120 |
| | CAGTCGGCGT | TGGCGTTGAA | GCTGCCGCTG | TTGCTGCACA | CGTGGTGGCG | CCCTTAGCTG | 180 |
| 20 | AATACGTAAC | GCTGGCGCGG | TGTCCCGCGG | ATCCAGGTAT | TCTTCGAGGC | TTTCTTCTTC | 240 |
| | GGCGATGCTCT | GAGATATCTG | GAGCACCAGG | AGCATTTCTGA | TACACGTGGC | CCGAAGATGT | 300 |
| | TTGCTTCCGG | GTGAAGTCTC | CCTCAAACCC | GTAGAAGTCA | TGGGGGTATT | CTCCATCCGG | 360 |
| | CATTTGCTATT | GTAGTAGTGG | TCTCCACATA | GCGTACGCCA | TTGATGTGCT | TCACCGTCTG | 420 |
| | GCGAGTCACG | GTCCTGTGAC | GGCCCTGGAG | GTCTTCTGTT | TCCCTCGTCT | TCACCGTTAT | 480 |
| | CGTATTGCCA | GCTGCGACAG | CAGGAGGGCC | AAAGCCGTTG | TTGCTGCGTA | GCGAATTTCG | 540 |
| 25 | GCGTCGTTGC | GAGCTCATAC | TGTAAGTCCG | CGGAGGCGCA | CCGAGGTAGC | TGGGCCGAGC | 600 |
| | AGCTCCTAGC | GACCGCGTCC | GCCCGTACCC | AGTCAGTGAC | TGAGTCCGCC | CCATCCCAAC | 660 |
| | CCCTGGTCTT | CGGAGTGACG | CAACCGACGC | CGCCGCAGAC | GACAAGCCGC | TGCCTGTTGA | 720 |
| | ATA | | | | | | |

1419UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCGTCCG | CGCCTGCGTA | CCCATAGGGG | CGAGGTGCGC | GCCGGCCCGC | CAGGTCACTG | 60 |
| | CGCCCAAACC | GCACCTGCAC | CTGAACCGAG | CCTGCAGCCC | ACGAAGGAAC | GCCACGCTAC | 120 |
| | ATGTGCCCGT | GCAGAGCACC | GCCCTTGTCT | TGCGGGGCTG | AAGTGACTGT | GGCAGCTCC | 180 |
| 35 | GCAGGACATA | TCTTTTAAAT | GAGCTGTGTC | ATGCGCACAT | TCTCACCCTC | GCGCTACCGT | 240 |
| | AGCGTCGCC | TCTGTCAACG | TGTGAGCTGC | TGCCAAAACA | AACAAATCGG | GACGGGCCCC | 300 |
| | CATGCAGTAA | TTACCTCCTC | CCGAAGGCAA | CGCCTTGGTT | TTGTTTACGT | TGGCCAGAGA | 360 |
| | TTTTCTCTTT | GGGGTGGATT | AGCTCACCGG | TCATCCGCGT | GGCAGAGGTG | CCTGCCCTGA | 420 |
| | CAGTTCTTCG | AATATTAGAT | GCTGGTATGC | GGGCACGCCT | AGCGCAACCG | ATTGTAGTTT | 480 |
| | ATTGTTTCGT | CACACCCGGC | TAGAGGGCCG | AGCTACAGGA | TCCCGGATGT | GGCGTGACGG | 540 |
| | ACAGCGTCAA | CGTTACGATC | TCAACGGTCG | CTCGTGCGGG | CCCGTCTGTG | GTAGGCGTTG | 600 |
| 40 | AGATACGCTT | AGGATGAAAG | CACGAAAATT | AAGGTTGTCTG | TAAAAACACA | AAGTCAACTG | 660 |
| | GGGTTTCCGA | ATGGGTTAGA | GTGCCATCGT | AATGGCGGAC | GGAGAGTGTC | CATGGTGCAG | 720 |
| | G | | | | | | |

1420RP

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|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCAATTCA | AGGTTGCTTT | CCCAGACATC | TACGCTGTTT | TCCAAAAGAT | CGCTCAGCAG | 60 |
| | CACCCCGACT | ACGAAGTGAC | TGTCAACGGT | CACTCACTGG | GTGGCGGTTA | TGCCTACTTG | 120 |
| | ATGGGCTTGG | AGCTCCAGCT | ACTTGGCCAC | AAGCCACATG | TGATCACCTA | CGCCGGCCTG | 180 |
| 50 | CGTATGGGTA | ACGCTGACCT | CAACAAATGG | TACGACAAGG | TGTTTCGACAA | CGTCAAGAAG | 240 |
| | GTCGAGGACT | TGAAAAACGG | CGGAAACCCA | AGAAACGCCCT | ACATCCGTGT | GGTTCAGAGC | 300 |
| | CGTGACATTG | TTCTTATGGT | TCCAACCTGGC | CCTATCTACA | CGCACGCGGG | TATCTTATTT | 360 |
| | ACCATCACTG | ACGTGGACAG | CGAAGTACCT | CTACAAATCGG | GCGTCAGACT | TGATGGCTGT | 420 |
| | AACACCAAGC | TAAAGGAGTT | GGTCGGCGAC | ATCCTCTTCA | GCGGGAAGTT | GCTAAGCTTG | 480 |
| | GTGCGTCTCC | TGAACCACAA | CAAAATTTTTC | AGAAGAATGG | CTTTGCCATG | CACTGATAAT | 540 |
| | TCCTTGAAGC | TATAATTCCG | AGGAAGTAAT | GAATTTTAAAG | TACGGAACGT | GCAGTCGCTG | 600 |
| 55 | CAGTCTTCTG | CCTCTTCTTT | ATGCCCTATA | TAGTTAATTT | GATGTTCTGT | TCTATTTTTT | 660 |

TACATTTTCC AAACACTGGG AATGCCACCT TGTAGATGTT GTTCCCAAGA TGGATATTTA
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1420UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGTCGC | GAGGCGCGCA | CCAAGCGCAA | GTGCATGGTG | GTGTGGCCCG | GCCTGGAGGT | 60 |
| | CTTCGAGATT | GACATGAAGA | AGCTGGCGAA | GACCTTCGCG | TCCAAGTTCC | CGACGGGTTG | 120 |
| 5 | CTCTGTGTCC | AAGAACGTCG | AGAAGAAAGA | GGAGGTCTGT | GTTCAGGCG | ACATCGCGGA | 180 |
| | CGAGGTTCGAG | GCCTACATCC | ACGCGCTGCT | AGAGGAGAAG | GGGATGAAGG | GTGTCAAGGT | 240 |
| | CGAGCAGATA | GACGCTGCCA | AGAAGAAGAA | GAAGACGCGG | ACGACGACGA | CGCCGCCGCC | 300 |
| | GTCTGTGAAGA | GCGGGTCCGG | ACATGTGTAT | CAGATTCTGT | TGTAGTGATT | AATGATTGCC | 360 |
| | GCGATTTCCA | GTGTCTTACC | AGTCCAAGAG | GACAGGTGTC | TGGCATGCTT | GCACATTGCT | 420 |
| | GGCGTCTGCG | TGGGGACCAT | GAGCCTGGAG | ATGGATCTAA | TTGAATGGGC | GCTTAACCTG | 480 |
| 10 | CGTGCTGCGG | GAGGCGGGGT | ATTTGGCAGT | GCGAGCGAGG | AATTGGACAG | AGTGCTAAAA | 540 |
| | CTGCACTACC | GAGTGACATA | CCATGCGTTT | GACCGGGGCA | CCAAGCGGTC | GGTGTGGGAA | 600 |
| | GTCTGTCTGC | GGAGGCCGAG | AAGATC | | | | |

1421RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCCTCAG | TTCCCCATCT | TGCCCTTCACA | GCCAGGATGG | ACCATCCGTA | ACTGGGAGTT | 60 |
| | ATGCGGTTTT | ATTTGTCTTT | TTAGTACAGT | ATTATCTCTC | TGGTTTTACA | TCCTACTTGT | 120 |
| | TTTATCGTTA | CTTGGGTATG | TATGGCATCT | TAAATTTTAT | CGACTCTAGT | ATTTTATGA | 180 |
| | CTGTGTAAAC | TAATGAAAAA | TAATGAATCG | AAGTCTCGTT | TACCTAGAGC | TGATTATGCC | 240 |
| 20 | ACATGCGTAC | TATCGGCGTG | CCACCGCAAT | TATGTATCTA | TCCTACAGAT | AATCCTTTCT | 300 |
| | ATTAGCAGTT | CTCAGGAAAC | GTCTCAGTTG | CCACTCGACG | TCAGCATCCT | TGTTCTCCAA | 360 |
| | GGTGCCCGAT | GTCAGCTCGT | AGAGCTTCAT | TTGGAACCGT | GGTCCACCT | CCGCCAATTC | 420 |
| | AACTCCATCT | CTCGTCTTGA | CGTATACGTG | CTGCCGCACA | CTAATGAAAT | CGCCGCGGTT | 480 |
| | CGCAATGTG | ATGACCCTAG | GGCTGTCTTT | CTTGACTCCG | GGCGGGAACA | TGTGCTTCAG | 540 |
| | TATTTTAAAC | ACCCGTTGCC | CCAATGGAGT | ATTGAAATTA | TC | | |

1421UP

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|----|------------|------------|-------------|------------|------------|------------|------|
| | GATCATCATA | CCGTGTCCAA | CATCGCCCCAC | GGAACCAACA | GTCACTTGAA | GTGGAACGCA | 60 |
| | GGTAACATAC | GCGATGGCCT | CCACGACGAC | TTGGCCAGCT | TCAAGGACGC | AGTCGTGCAC | 120 |
| 30 | TGTCTCACGT | TCCGCAGCGG | CCAGTCCCGC | GACTACCGCC | ACCAAGTCGT | CATGTTCCGG | 180 |
| | AACGGTTCTG | CTGGCAGTGC | CAAGTCCGGG | TCGTGGTTCC | GTGGCGCGAC | TGACTCGCGC | 240 |
| | GATGGACTAC | TCCAGCGCGG | GCGCGAGGCG | GGCGCGGAGG | CCGGTCCGCA | GGCCAGCTCG | 300 |
| | TGGTTCCGCG | GCGACAGCCG | CACCGAGGAT | TCCGGCCGGT | CGTGGTTTGG | GCGCGACGCC | 360 |
| | CGCGACACCC | GCGACACTCG | CTCGGACCGC | TCGTGGTTTG | GCGCGACGCG | ACCGGAGGCC | 420 |
| | CGCACCGACG | GCACCTGGCT | CAACGGAGAG | CGCGACCGCT | CGTGGTTCCG | TCCGAGAAAA | 480 |
| 35 | CACGCCACCC | TCCAGCAGTC | CGACCGTGTC | TTCCGGAATG | TCCCGGCTCT | CGGCGTCGAC | 540 |
| | ACCAAGCGCT | AGGCGCCGAC | GCCCGCGGCA | AGGTCGACGA | CATcAagcaG | GCAGGTGCAG | 600 |
| | ACCTCGGCCG | CTCCGCGCAG | GCCAAAGGTC | ACGACTTCAA | GCAGGCCCGC | GCTGACCTCG | 660 |
| | GTCGCTCTGC | CCAGGACCGC | CTCCAGCGCG | GCGTTGCCGA | CGCCAAGCAG | ACGCTCTCAG | 720 |
| | GCGCCGCCCT | CACCGTCTCC | GGCGCCGCGG | CCTCCGCTGC | TGGCGCCTCT | CGCGACGCCG | 780 |
| | CCTCGTCCGC | CGCCGACAAG | ACCCAGTCCC | TCTTCAACTG | GGGCTACAAC | AAGGCCGAAA | 840 |
| 40 | AGTCGAAGGC | CATCGCCATC | GGCGAGTAGC | ACAAGGCCAA | CAAGGACTAC | CAGCAGGCCC | 900 |
| | TCGACGCCTA | CAACCGCTCC | AAGCGCTGCT | TCCGCCGACG | CGACCAGCAC | CTTCGCACCG | 960 |
| | GCCTCGAGAG | CGCCAGGCC | CAGCTGCCGT | ACTGTCCGGA | CAAGCTCGAC | GCCATCTcCG | 1020 |
| | CGGAGTTTCA | CCACTACGCC | CGCGAGAACA | TcTcCGACAT | CTNCCGGCGN | CTGGACCACG | 1080 |
| | AGGACCGcGA | TTCCGCGGcT | TCCGGcCTCT | TTAGCTGGTT | CCGcTTCAAG | GCCCgGcTGT | 1140 |
| | cGAAATCGAC | CT | | | | | |

1422RP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCCGTGTC | CTGGGGCTGG | TCGAGAACAT | GAGCGGCTTT | GTGTGCCCAT | CGTGCGAAAA | 60 |
| | CGAGTCGACC | ATCTTCAAGC | CAACAACAGG | TGGTGGTCCG | GCCTTGTGCG | AGGAGCTGGG | 120 |
| 50 | GATAAAGTTC | CTTGGAGCCG | TGCCGATTGA | TCCGCGAATT | GGAAAGATGCT | GCGACTCTGG | 180 |
| | CGAAAGCTTT | TTGGACGCCCT | ATCCGGACAG | TCCAGCGTCG | ACCGCCATCA | TGCATGTGGT | 240 |
| | AGAGGCTCTC | CGTGACGCCG | TCCGCGACGT | ATAACCGGCC | TAGCAGTTCC | TGCCAGTGAC | 300 |
| | AGACTGATAC | CAGTTTATAC | ATACATACAT | ATTGTAAAAA | AAGACGCTTA | GTGTTACGTG | 360 |
| | GATGCGAGCG | CCCCTTTTCA | GTAGATAGTT | TCCGGCTGTC | CCAGCGGCAA | TGCAAGTAAT | 420 |
| 55 | CTGTCTTTAA | AAGACGGGGT | CTCCAACGCT | TGTCGATAAT | TCTCAAGGAT | GATATGACAG | 480 |

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|------------|------------|------------|------------|------------|------------|-----|
| ACAAGTTTGG | ACATGACACA | GCAAACGACG | GAGAGTTCTC | GGTGGGAGCC | GAAATCCGTG | 540 |
| GCCAGGACGG | GCAGAACCCG | GACCAGATCG | GAAAGCAGCT | CTTGGTTGTG | TTTGTGTGCA | 600 |
| AGTGCTATCT | GGAGGTACTT | CTCAAATACC | CCCAGGCCGT | GAGTCCAAGT | TTCCATCTGT | 660 |
| TGTGCGGGGA | AAGTCTCCAA | TAATTGACGC | AGTGTCTGCA | AGTTAGCAGC | TGA | |

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1422UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTCCTAG | GCGCCAAGTC | GACGACTACA | GGCGGGCTTT | TTGGGCCAAA | GACGGAACAG | 60 |
| | AAGCCCGCAG | GCGGCCTTTT | CGGACAGAGT | AGTGCCGCTC | CCAATGGCAC | TGGCGGCGGT | 120 |
| 5 | GGTCTCTTCG | CTAGCACGGG | CAACAGCGGC | AGCACCCAAT | TGGGTGGGCT | GTTCCGGCAAC | 180 |
| | AGTGCTGCGG | GCGGTGGTGG | GAGTCTTTTT | GGCGCCGGCT | CGGCCGCGAA | CAACAACGCA | 240 |
| | TCCACCTCGT | TGGGAAATCT | CTTTGGGAAA | CCTAATGACA | CGGCACCGGC | AGCTGGTGGG | 300 |
| | GGTCTTTTCA | GCAATCGGCC | GAACACAGCC | ACCACAAATA | CGTPTTCTTC | CACAAACAGT | 360 |
| | CTTTTTAGCA | ATAATCAGGG | AAATGGTGGC | CAGAATAATG | GGGGGCTCTT | TGGTGCAGAA | 420 |
| | CCTACCGGGG | GGCTCTTTGG | AAACAGCACC | GCTCAGCCAC | AGTGCTCGCT | TTTGGAGCT | 480 |
| 10 | TCCTCCTCAC | AGAATAATCA | GCAGCAGCAG | CAGCAAACAC | AGCAACTGTC | CCTTCTGGGT | 540 |
| | TCCAATCCAT | ATGGCCTGAA | TCTGACTGGT | GTTCTGTGTA | CTACCATGCC | GGAATCTATA | 600 |
| | ACGGCAGCAA | TTACGTCTAA | GAAGAAGACG | AAGCCTACCG | CT | | |

1423RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGAACAC | AAATTCATCT | ACGAACACAA | ACTTGGAGCG | GTTCTGTGTTG | GTTATATTGG | 60 |
| | ACAGGAACAT | TGACCTACCT | TCAATGTTTG | CGCATTCGTG | GATCTACCAA | TGTTTAGTAT | 120 |
| | TTGACGTATT | CAATCTCTCC | AGAAATACGA | TTTCAGTACC | GAATACTGAT | GAAAAGGGAC | 180 |
| | AACCCACATA | TAAGAAGATG | GATATTGAGC | CTAAAGACTT | CTTTTGGACG | ACAAATGCGC | 240 |
| 20 | ACTTGCCGTT | CCCAGACGCA | GTGGAGAATG | TCGAAAATGC | ATTGGCAGAC | TATAAGGCCG | 300 |
| | AGGCGGAAGC | GATAACGAGC | AAGACAGGCG | TTGACAATAT | AGGCGATTTA | GATCCTAACT | 360 |
| | CTCAAAATGA | TACTTTGCAA | ATTCAGGAGG | CAGTGAACAA | GTTGCCGGAA | CTGACTGCTA | 420 |
| | GGAAGAATAT | CATTGATACA | CATATGAATG | TTCTGGCTGC | GTTGTTGAAA | GAGCTAGAAA | 480 |
| | ATAAAGGGTT | GGATTCTGTT | TTTGAAATGG | AGCAACAAAG | TGACTCTGCT | AAGGTGAGGC | 540 |
| | AAGCATTTCAT | GGACGTTTTG | AAAGATGGCA | AGACCAATAA | CCTCAAGGAC | AAGTTAAGGA | 600 |
| 25 | CATACATAAT | CATCTATTTG | ACTAGTTCGG | AGAAGCTTCC | CGATCAATTC | GTCCAACATG | 660 |
| | TTGAGAGTTA | CTTCCAAGAT | AATAATTTTCG | AAACGCCAGC | GTTGAAGTAC | TCTATAAGT | |

1423UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCATCCTG | TTGAACTGCA | TGCTCATGTC | GTCCGATGAG | TACACATGAT | TGAAGTCAAA | 60 |
| | CAAATGTTTG | CCCGACTTGA | CCTTGCCGCC | ACGCAACGTC | GCAAACAATC | CGTCGCTGGA | 120 |
| | CCGAAAGTCT | GGGATGCCTG | CAGCCACAGA | GATCCCCGCA | CCCGTGACCA | CCACGATGTC | 180 |
| | CCGACTGTGT | TGGAGCGCAT | ACCGAATGAA | GTCGGCGTCC | CGCGCGCTCA | CCAGCTCCGG | 240 |
| | GTCACTGAGC | TAATGCGGTA | GCTGAAATAC | CGAGTTCTGT | CGAGGCCTGT | ACGTCAGCCG | 300 |
| 35 | CGGCTTCTTC | CGACCGGGAG | CCCGCGCCTT | GCGCAGCGCC | GGTAACAGCT | CCTTCGGTGT | 360 |
| | GACCTCCTCG | GACACGCTCG | GCCCGCTGTC | GCAGGCCTCT | GTCTGCTTCT | TTTTGACGCT | 420 |
| | CGACGGCGGC | GTGATCGGCA | GCTTCACCTT | CATCGGCGAC | CGGTACCGCT | TCACACCGAT | 480 |
| | ACCACAGTA | GCCTCCGTCA | TCCCGCACGT | TCCACAAACC | TCTGCCGCTT | GCTGCACTCG | 540 |
| | TGGTTGCCCC | GCTGCGTGGC | GTGTAGCGGA | CATGAAATGA | GTGACGGCGG | GCCCCATTTT | 600 |
| | GCCGGCGTTC | GCTTTTCGACC | AATCCGGAAA | ACTTATCCCC | CGTAAAACAA | AGGCAGGACT | 660 |
| 40 | TCCGGTGTGG | CGATAGCGGC | TTTTGTGCGA | TGGGCTCCTG | GTCCCGTTAC | GCCTACATT | |

1424RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTCATCT | GTATTTGGAA | GGGAACGCAC | CAGACGGGGG | TGACTCGCAG | AAGCTGCCAG | 60 |
| | AGGAGAGAGA | AAACATAGAA | AATATATTTA | TATTATCTAT | ATTTCAGTTA | CATAAGAATG | 120 |
| | TGTCATAATT | TTATTGTTTT | TAGATTTGCA | CTTGCGAGTG | CCCTGCATAT | GACTATCCTT | 180 |
| | TTATTCTAGA | TTCACTGCTA | GCTAGTCGCA | AGGAAATCGA | TATCGTAATT | CCCATTTAGA | 240 |
| | ACAAGATACA | AATTAGCGAA | TTTCCCGGAA | AAACCGGTCT | TATAATACAG | CATCATTTGCC | 300 |
| | GAATCCATAC | CAGTCCTTCA | ATTAAACTTC | CGAATCAAAA | AAGGCCCGGC | GCGGTCTCAA | 360 |
| | GAATCTTTTC | GCCAGTACTC | GAATGGTGAC | TATCAGCAAG | CGACTCTTCA | CTACCCGAAA | 420 |
| 50 | CGACCATGAT | ATTTGTGTGC | AGCAAAATGAT | TTAAGGCTCT | CGAGACACCT | CTTATTGGCG | 480 |
| | TCCTATGTGT | TCTGTGCACG | CCCTGGCCCC | GATAAAGAAT | GCAGGTGCGC | TAATAGTAAT | 540 |
| | TACTAACCGT | TTTTTAAATC | GCCGTCTTGG | TTGAGACCTG | TGAAACGATA | ATCCCATTTA | 600 |
| | TACCAGATGA | ACTCGCCGCA | CTATAGTGTC | CGTAATTCAG | CACGTGGAAT | TCCGAGTTAG | 660 |
| | GGTGCGCCAA | GTAGCAAATT | TGTGTATCCT | CCATAATAAG | GATATCCAAT | GCCAGTATAA | 720 |
| 55 | TAGT | | | | | | |

1424UP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCATCGTA | TGCACTCAGT | TGTATTCTAG | CATAGCCCGT | GCGATTGCCG | TGATTTTCGAA | 60 |
| | CGATGATGAC | AGGCAAAATCA | CCATGAGGAG | CCGAGGATTTC | TCCGCTAAAT | TCAGCTGCAT | 120 |
| 5 | TTGCAACAAA | GATGCCGTGT | TTCTATGCGA | GCCCCCTCAC | ACGGGCGTAA | AACATGTTCC | 180 |
| | AAATGCTGCT | CGCTCTGCCCT | TGCGCTGCGT | GTGCCCTCAG | CCAGACGGTC | TGTTTGCTTC | 240 |
| | TAATGTGGGG | GAGAGTCGTT | CTACTCACGT | GTTCAGCGTG | CTGAATAACT | TGCCATATCCT | 300 |
| | TACAGCTGCT | GACCTGAGGC | AATGCACGTT | TCCAAGTCCA | ATAGTCTACG | GGCCCCGAAGG | 360 |
| | TTGTCCGCGAA | TGCACAGTGA | TCGGTAATCT | ATTACTACAG | CCCACTGCAA | GCGTACAGAC | 420 |
| | AACCTACAAAT | GACGGCGCGT | TGTACAAATA | AATCAATTCC | GCTTGCTCGA | CCGTAAACCC | 480 |
| 10 | AAAGCTATAC | CGTACCTTGT | GTCCTTCCCT | GTTTCCATTA | GCCGTTGCAT | GTGCTTTTTTT | 540 |
| | ACTGTGATTA | CAGAGCCTTT | CTGTAGAATG | TGTACGTGAA | TTTAATACTA | GAGAGCTATA | 600 |
| | AAGCTCTCTT | GTTCTTGTAA | TGTCTGTTTC | AGAAGATAAA | AGGTAACACC | AGAAAACGAG | 660 |
| | GTACGACCCA | ACGGCTATTG | GACTACGAAC | TGGACAAAAA | CTAAGAGTCG | TAAGTAAGAA | 720 |

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1425RP

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|----|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| | GATCAGCTCC | CACCTTGGTTG | CAACAGTATT | GCTGAGACTA | TCATTCTTGT | AGAGCGATTTC | 60 |
| | TTGTGAAGCA | GTTGGCCCCGG | TGTATGAAAC | CGCGTGTTTA | CCAAGTGGAG | GCCTTTGTTC | 120 |
| 20 | AGAAATTTTA | GTTCTTTCTC | GAACGTATTTC | GTGGTCTTGG | AGAATAAAGT | TTTGTGTGCTC | 180 |
| | GACATAGTCA | GGGTCAAAA | CATTACACAGG | TGTGTTCATCA | TATGGCGGCC | GGCTGCCGGA | 240 |
| | GGTTGTGGGA | TCAGCCTTTTC | TGTTGGCTTC | CGAGTCTCCA | ACCTTCGAGA | TAGCTTTTGA | 300 |
| | TAAGTTGTAG | AAGTCGTCCA | AAATATCGTC | TTCCGCCGAGA | GGAGCAACGC | TCGAGCCCCCT | 360 |
| | GAACAGTGAT | CCACTAGAAC | TTCTTGCAGT | AGCCTCGCCG | TCAGCATTAT | TGCTATTGTG | 420 |
| | TGTACTGCTC | GAGTTGCGCA | GATTAGATAT | ATCAAACTGT | TTTCGATTGTG | TGGAACCTTT | 480 |
| 25 | ATATTTCATCA | TATGCTCCAA | AAGAATCTCT | GCTTTGCGGA | GAGCCTCGCG | CTGCATGAGG | 540 |
| | AGGAGGAGCC | ATAAAAGATG | AATCCCTGCC | AGGAGAGTTG | TGTAACCGCC | CAAATGGTGA | 600 |
| | TGCAGCGTAG | TTGTCATAAA | TTTGAACCAG | ATCTGCACGC | GACTTGTAACA | GGTCCCTGGG | 660 |
| | GTTGTATCCT | GCCTTGGGGT | CGCCAACCTTC | TTTAATGGAC | CCGAAGAAGC | | |

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1425UP

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCATACAC | GCGCTGCGCA | TACAGTTGGC | CAGCACCAGC | ACCCGCGACA | GCCTCCAACG | 60 |
| | GCTAGAGACG | GACACCGCAG | GCCTTGTCGC | CCAACGACCTT | TCCCGCTGGG | CCGACAGCAC | 120 |
| | CAATGCATAC | ATAAACGGCA | CAGAGGCCTC | CGTAAATGCC | GGCCTCCTCG | GCTGGGTTAC | 180 |
| 35 | CACAGCCACT | ACAGCCCTCA | ATACCACCGT | CGCCGCCCTG | CTCGCCGACA | TCGATTCCAC | 240 |
| | CGTCGACCGG | GCGTTCCGAG | ACACGCCACT | TCACCGCCCC | ATGGTGACCG | TTGTCTCCTG | 300 |
| | TGTAATCCGG | AACAAGTTGC | GCGCCATCGA | GGCAGGCCTC | ACCTGGACCC | ACGACCACGT | 360 |
| | ACGCATCGCC | CTGCCGCGCA | TCCATACCGC | CCGCCTTCGC | GACGCTGTGC | CAGAACCAGA | 420 |
| | CCTTCCAACC | CATCCCGCCT | ACACAGCCGT | GCTCCAGTCC | CTCAGTGACC | GCTTACGTCA | 480 |
| | TTCCGGTTGAC | CGTGTGCTAC | ATCAGTGCTG | TGCCGCGGTC | CGCATTGAAC | TCTACGTATC | 540 |
| | GCTTGCCCTG | CTCGGCCCTCT | GGATTCTGCA | GACACCTCTC | GGCTTGCCAA | TGCTGCTATT | 600 |
| 40 | CAAGTCGCAC | TGCCGTGCGA | GGAACCTGCG | CCGCAGAATG | CCTTGAGCCT | AATTCTTACA | 660 |
| | TAATCTTAAT | TCGCCATTCT | GCTGCTCGAA | CACGAACCTC | GCGTTAGCCG | G | |

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1426RP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTTCTCT | CCGCTCGACG | TCACTGGCGG | CATGCACGAC | GCCATGAACT | GCTGCTGCCG | 60 |
| | CTCCTGATCG | CCCTCGTGCA | CTGCTAGCCG | CGACTGGCCC | TCCAGAAACC | GGCCCATCTT | 120 |
| | GTTCGCATCC | TGCAGCAGCA | CCACCACATG | CGGAACCACC | GGCTGCCTGG | CTGCTTTCCG | 180 |
| | TAGCTGAAAC | GAAGAAGAC | GCCCTATAGG | CGCGCTGCCT | AGCATATACA | CCCACGGGAC | 240 |
| | ACCCATAACA | GCCCTTCTAA | CCCTCAACCG | AGTCACTGAG | AACCTGGCGTA | GTGCGCATCA | 300 |
| 50 | TOGACCTCGC | GATTTTTTCAT | TCTAGTGAAT | AATCCTTACA | CCGCCAACAC | AAAGGCAGCT | 360 |
| | TCACCACCAT | TCTGGCTCAA | CTAGGAGGGC | TGTCGGGCGA | ACCAGGAACG | CGTTACTCGG | 420 |
| | TAAGCGGGCA | TCTAGTCAAG | TGGGCACTTG | CAGGCGACTT | CTTTTGTGT | GTTATTTCAGG | 480 |
| | GTGTAGGATG | CTTGTTATAG | GTTTGACAGG | AGGTATTGCA | TGCGGCAAGT | CGACGGGTGC | 540 |
| | GCGGAGACTG | CACGAGCGAT | ACCGGATCCC | GGTGATCGAT | GCGGATGCGA | TTGCGCCGGA | 600 |
| | GATTATGCGG | CCGGGGGAGC | GGGCGTACCA | CGGGTGGTGG | AACGGTTTGA | GCAACGGGTG | 660 |
| 55 | CCGCAACTGG | TGCAGGCGAA | CGGGGAGCTG | AACCGCGCGG | CGCTGGGGGC | GTGGATCTTC | 720 |

CA

1426UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| 5 | GATCTGCTCC | AGCGCCTGCT | TGAACCAATC | TCCAGAAGAG | TGTCCGCTC | GTCAAGAACC | 60 |
| | TTGAAGTCAA | CCTCGGTAAA | GTACTTTGGA | CCGCAAGCCT | CGAGCATGTC | GATCAACCGG | 120 |
| | CCGGGCGTGG | CAACCAACGAT | ATTGGGCCCTC | CTGCGCTCTA | GGGATCTGAA | AGTTTCAGTC | 180 |
| | CGCGAGGAGC | CGCCCATCAT | GACAAACGCA | TTGAAACGGC | GAAGCTTCCT | GTTGGCGTTG | 240 |
| 10 | CGCATCTCGT | TGATCTCGTT | GAAGATCTGC | GCGGCCAAGT | CCCTGGTTGG | TGCAATCACA | 300 |
| | ACAGCCTTGA | CATTTTCCGA | AGGAGGCCCC | TCCAAGAGCC | GCTGGAACAG | CGGCATCAGA | 360 |
| | AACGCAAGTG | TCTTACCTGT | TCCAGTTTTT | GCCCGTGCCA | CCACATCGTG | CTCCGTCTGC | 420 |
| | AGGATCGGCT | TCAGCGTCTT | CTGCTGCACC | GGTGTAGTT | TATCGAAGCC | GCGTGACTGC | 480 |
| | AGCATCTCGT | ACAGCTCGTT | GCTGAGCAG | CCCTCCTCCA | CCAAGGTCCG | CGGTGTGCTT | 540 |
| | TCGACCCCGG | CAGCTTCGTC | GGCCACACGC | ACCACCTCGG | TGTTGGGGCC | GAGGCTGAAT | 600 |
| 15 | CCCTCGCGCG | CCGCGCCGTC | TGTACGGCCG | CGTCTGCCCT | GTGGCTTCCG | CCACATGCCG | 660 |
| | CCGCGGGGAC | CACGCTCACC | ATCCTCCCTG | TCGCTGCCCG | GCT | | |

1427RP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| 20 | GATCTTTCTA | TCCGGGAAAAG | AGTCCATCGA | ATACAAGGTG | CTTCTAGAAG | GGCCCTATGG | 60 |
| | AAACACCAAT | CCGCGGCTTG | CTGCTCCTGA | CCGGCGCTAC | GTGGGCGCCA | GCGCAGGTCT | 120 |
| | TGGCGTAGCA | GCGGTCTACC | CACACTTCGT | CTCTCTGTTG | GACAAGGAAA | GCCAGTTCAC | 180 |
| | CCATTCATTC | TACTGGATTA | TAAATGACCT | TTCATATCTG | CATTGGTTTT | CGCATGAGCT | 240 |
| | GAGGTACCTG | GCGGACCGGA | ACTGCGACAT | CAAAATTATT | TACACGAGGA | GCAATGAGTC | 300 |
| | GGCTAAAGAA | CTGACCCGAG | ATGTTGCCGA | TTCCGCTCT | GCGAAGTTTCG | TGGATTCCGT | 360 |
| 25 | GGATATCTGC | AGGCTCCTCC | TGCGCCGAGA | TCTCAAAGAG | ATCGTGGAAG | AGCAGATCCT | 420 |
| | GCTCTCGTCT | AACCAGGCAC | AGGACGTAC | GTTTATTAGC | AGCGGCCCTT | CGACCTTTAA | 480 |
| | TGACCATTTT | CGCTATGCTG | TGAAATCTAG | CATCACGGGC | AAACTCCAGT | GTGATGTGCA | 540 |
| | CCTAGAGGAG | GAAAGCTACA | CCTGGTAGAT | AGATACCATC | TTATTAGTTA | ATTGTACTTA | 600 |
| | TTTATTCTCT | TTCTGTATC | TTAAGCAAAT | CCCGCCATGT | CTCAACCAGC | TTCTGCATGC | 660 |
| 30 | TTTGCGGATT | GAGCCCTGCC | TCGACCACGT | CCAGAGGTAC | CTGGTTTTTC | G | |

1427UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| 35 | GATCATCTTG | TCCATGCCCT | TGGGGCCCCAG | CGACGTTCTG | ATCGCATCCG | CGACTGCTCT | 60 |
| | GGCAGCAATA | ATGTTGCGCT | TTCTCACTTC | CTGCGGCTTC | TCGCGGTTTT | TGAACGTCCG | 120 |
| | ATTGCTGGCA | CTGACCTTCG | GTGGCATCTT | AATATACTTC | CTGATTCCGC | GCCCCAGAAG | 180 |
| | CCTTACTTGC | TGCTAGAGAA | GTTAAGGTTG | TTTGTTTATG | CTGACAACGC | CTAAGTTACC | 240 |
| | GTCAAACGAT | CAGATTTTTG | CCACTGGAAT | TTCCCTTCGT | ACAAACGGAT | ACTTGATCCT | 300 |
| | TTGATCTCCA | AGAGCTGTTT | CATCGGGATG | GCCTGCTGAG | TAGTGCCGGG | TTGAAGGGAA | 360 |
| | AATCGGGGCT | CGACAACCTG | GGAAATGTCT | ACGGAGGACG | CGGCGTTAAC | AGGGATCCGC | 420 |
| 40 | GTGACGGCAG | AGCTCAAAAA | AAAATGCGCG | TTTTCCAGCT | GGTATGAGGC | GTTCAGGGC | 480 |
| | CACACTCCGC | GGGCCGAGGT | GATTCGGCCG | CTGCCCGAGG | AGTTCTGTAG | CTACGTGGAT | 540 |
| | CAGCGCGGGA | TCAGGCTGGC | GCGCGAAGAA | GGCTCGAAGT | ATTTCTACGG | CCAGGAATGG | 600 |
| | AGCCTACGAC | GGACGGAGAG | TACAGCGACT | GGGAAGGCGG | CGACAGCGCG | AGTGAGCGGT | 660 |
| | CGTTCGTGCC | GCTGGACCGG | TGGCGGACTT | CCCGGAAGTG | CACGCGCGGG | TGAAGCAG | |

1428RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCATACAC | GCATTGCAGG | TATACATTAT | AGTGCTCATA | ATTATCGGAT | TGCAAATAGA | 60 |
| | ATGGGGCCCT | TACCGTAGTA | CTGTCTTGCT | AATGCAGCGA | CGCTCAGGCT | TAAGAAGCTT | 120 |
| | TTTGTCTCTC | GTGTATTACT | AACAAAATAA | TTTCCTCGAG | CACAGGGAGT | AGAGATGAAT | 180 |
| | TACATAATCC | ATATGGACAC | CTCGTCACCT | TCCAGCGACA | TTAACATTTT | CTTATGAATG | 240 |
| | CCCAATAATG | GTGCCATAAT | GATGTGCTTG | GTGTAATGCG | CATTATAAAA | TGTATGTGGA | 300 |
| | TTATATATTG | TTTGTAGCAT | CTAGTAGAAC | CATGGTAGCG | AGGTCTTTTG | CCATACCCTT | 360 |
| | CTGAAGAGAG | ACATAGCAAC | AGTGTCTTGT | GCAGACAGTC | TGCCGTGCGA | TGTTGCCTTG | 420 |
| | AAGTAACCAT | GAGTACCAAG | ACTCTCCTTA | ATGAAGCCAG | AGCGTCCAGA | TTTCGTGAAT | 480 |
| | AGTGGGATCG | ACTTGAACCA | CTCGACATCT | TCTGGCCTAA | AGAACATATA | GCGCACTGTG | 540 |
| 55 | ACGACGCGCT | TGTGGAACTT | GAATGGATGG | CCAGTTAATA | TGATTCTCTT | GGCCAATATC | 600 |
| | CGTGTGTGGT | CTGCGTTTCT | GAACGTGCCG | TGGCCACCGA | ACGTCAGGCC | CTTTGGATCA | 660 |
| | GAGGGGTTTT | CTTTGAAGTA | GATGGCCGGT | GACTGGGTCA | GGTCCAAGGG | AAGCATGCAT | 720 |
| | GTC | | | | | | |

1428UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAAACCA | GAGTGGGAAG | CGCACACGGC | GCACTGGCGG | GAGCCCTTAC | CGTAGTTTCT | 60 |
| | TGGGTGGGAG | AACCAAAAGT | TTTCGTGAGC | CATCTTGTCT | GCAATGCGTT | AGTACTCTGT | 120 |
| 5 | CTGACCGCTT | GGAAGCGCTC | CGGCCCTCGT | GAGCTGCCCA | CACGCTCGGC | GTCTGCGGCG | 180 |
| | TCCTCATTTG | CCGCACCGTA | TTCTGCTCGC | ACCGACAGCT | CTAGACCACA | CTTCGCCCCA | 240 |
| | TCCTGTGCAC | ATACGATTAT | GCTTTGTCTC | TTGGTATTAT | CCTTAGATTTC | GCTAGACTTC | 300 |
| | GACACTATGG | TTATCACCAC | TGTTGAAGTC | TGCTTCGGTT | GGCACC AAA | GTCTCGGGAC | 360 |
| | TGTAGTTGGA | AAGCGCAGTT | CGCGGCAAA | CAAGCATCTC | ATAATGTGTG | GGTGCAACCG | 420 |
| | TTGAAATGTG | GGGTGCAACA | GTCAATTGTA | ATTTCTTTTT | TTGATCGAGA | GATGGGATGC | 480 |
| 10 | GATGAGCTAG | TTGAAAAATT | TTAGTATGGC | AAAACTGGCA | TGCATATCTG | AGATGGGCCA | 540 |
| | TCAATTGCGG | CAGCTTAGTG | TTAGACGACC | AATCCAGAGG | TGGTAATTGG | GCTATGGCAG | 600 |
| | GTCACCTCGC | CAGGTGCTCG | GTAAAAAAGG | GCCACAAAAC | GTTCAAGTCG | AAGCATGCGA | 660 |
| | GCAAGGGCGC | GTTGAAACGG | CTGCACAAGG | GCAAAGTGGA | ACAGGAGACC | GCTGCTGGGG | 720 |
| | TGAAGG | | | | | | |

1429RP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCAAAGTT | TAGCATGTAA | ATGTGCAACA | AACTATTTAT | TACCTCTGCA | CTGCCCATGT | 60 |
| | CGCTTGA AAC | CGCCGAGGAT | CCAAACCAGT | GCTTTCATAA | TGGAATTGCA | AAATTGAGTG | 120 |
| 20 | CAGTAATTGA | TAGTATCTT | GAGAAAAGCC | CTCCCGACTT | TACCCTAGAT | GATTGCTTAA | 180 |
| | TATGTTCAAA | AGCCTCCGAG | TTAATAAAAA | GGCTTGCTAC | ATCCAAGGTG | CATATAGATG | 240 |
| | TGATAGATGA | GACTAACAGC | ACCATTTCATA | AAAAGCGGAA | GCGCAATTTT | CGAATCACAT | 300 |
| | CACCCAGAGC | AGTATACACA | TCCATTTGGA | ATGTCGTATT | AAGAAAGTTG | GATAGCGTTG | 360 |
| | TCGACCAAGG | AAAGGTAGAA | ACCGTCCAAT | CCTTTGATCA | GATACTTGAG | AATTTCCCTTA | 420 |
| | TTAACTTGAA | AGAAGTCGAC | TTTACTCTAT | CTGGGGTTGC | TCTGATGTAT | AGCACTATTG | 480 |
| 25 | ACTACTGGAA | CCCCCACATG | ATCCCAGGCT | ACGGCAAAGT | TACGACTGTA | GAGCATTTCC | 540 |
| | TGGTGCAGTA | TATCTTACAT | CGATATGAGG | TATTATATGT | GGCCGGCGAT | GAAAGCCTAC | 600 |
| | TAGATAGTCT | GGTTGGTGCC | ACTATTCGGA | AGCTATTTGA | ATGCATGCAG | TCACAGCATG | 660 |
| | ACCACCAGAG | CCTGGTAGCG | AATAGCCAGG | CTGATACCGC | ACGAAGAGAT | AT | |

1429UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAACCGA | TAGCGGAAGG | CGGACGAGCC | TCCGAAATAG | TACTAGGCAG | TGGTTGGCTT | 60 |
| | TTGTTTTTAG | CTGTGTTTCA | AGATGTCAGC | GAGAACAAGC | AGGGAGGCAG | GCGCCTCCAG | 120 |
| | GGTGATGGGA | GGTCGGAGTA | GTATGGATGG | AAAGTCCGGG | ACAGGAACAG | GGTATTTGGA | 180 |
| 35 | ACAGCTGAAC | TCGCCAAGCA | TTCAGAAGCT | CATGCACTCG | GACGCTTCCA | CGACAGCACT | 240 |
| | ATTGGAGAGG | TTGAAGATGT | CCCTAGTGAC | TTGCGTGGAG | TTACGGAAGT | TCATAAGAAA | 300 |
| | GAAATACTTG | CTAGAAGAGG | GCCATGCGCA | GGAGATGGGC | AAGGCTTATA | AGAACTTCTT | 360 |
| | TCCGGAGGGC | GGTGAGTGCA | GCTTGCGAGG | TAGCATACAT | AAGGTTTTGG | AGTATGACGG | 420 |
| | AAAACCTTGC | CAGGTGAAAC | TTTCATATGT | TGCTGCGTTG | CAGAAGATGT | ACGATGAGTT | 480 |
| | AACGTCGCTT | CTTGCAATCA | TGACTAAAA | GCGCAAATCC | CTCAAGGAGA | GCAGTCGGCG | 540 |
| | GTTGGAAAAA | GAAATCGCAG | ATGCTATACA | TAGCGCCGAA | AAGGCAAAGG | CAAGATATAT | 600 |
| 40 | GTCTTTGTGC | ATGGATTGGG | AGAAAGCTCAA | GCTTGTAGAT | CCTGCAAAGA | CGAAGTTGAC | 660 |
| | ATTGCGGGGC | TCAAAGACCA | CTCGAGAGCA | GGAAGAGGAC | TTATTAGAAA | GATTGATA | |

1430RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCAGAG | AGACACAATG | TCCCTGTGCC | CACTTTGTCT | ATGCTTTATC | ATTTATTGAT | 60 |
| | TCCTGTGCAG | GGGAAAACCT | AAGGCCCAAC | AGGGAATTGT | CAACCATGTT | TAAACTTTTC | 120 |
| | CATGTGCATG | GAGCTCCGTA | TGTAGCAATA | TATTCTCATA | GCTAGAGATC | TCACTATATA | 180 |
| | TTAGCTTGGC | ACATTTATGT | CATATCGACG | TTCTGTTTTG | TACACCTTTG | TGTCAGGTAG | 240 |
| | CAGGGGCCGC | ACATAACTAG | TTATAAAAA | GATGCCGCCG | GAGAACGAGA | TCTACTATCT | 300 |
| 50 | CTCTGAGTAG | GCACAGTTTC | CAACGTATTA | GTCTTAAATG | AGCAAGCGAA | TCATTCAACT | 360 |
| | CATACTTCTC | TCTGCCTTTG | CGCGAGCTAA | TTACGTGGAG | CCCTTCAAAT | CAAAATCCATA | 420 |
| | CATTGCTTGC | TCAGAGGCAA | GCCATTGCCC | AAAGGAATGG | CCATGCTGCT | CGCAATATGG | 480 |
| | ACAATGCGGG | AGTGGGCCGC | TATGCATTAG | TGGCTGCAAC | CCAAAATTCT | CGCATAGCCC | 540 |
| | TGAGAGCTGC | GTGCCAGTGC | CGCCGCTACT | ACCGCAATTG | GAGATAGTGG | CCAGCGATGA | 600 |
| | TAAAGGAGTA | TACCTAGAGA | TGTCGGGTCA | GCCTGCCTTG | GTCACAAAGT | TCCAGCGCAA | 660 |
| 55 | GAGCTCGGCG | CAGTTGTTGG | AAGTACATCA | CGAGGAACAG | CAGTATGGTG | TGTCGGCATT | 720 |

AGAGCAGGAC

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55

1430UP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGATTTG | GTTACCTTGT | TGTCACACCC | ACGTACTTCA | AGAGATTCCG | ACGCAGAGTT | 60 |
| | GTAGACAGCG | TACCTATTCC | GAGCGACAAA | AGTCGCAAAG | CTTCCCTTAT | CCTCAACTAT | 120 |
| 5 | ATTTGTGGCA | TCAACAGCAC | CGCTAGCCTG | TTTTGGAAGC | AGGCAAAGAG | CATACCTATC | 180 |
| | GCCATCCCTG | CTACTTGAGT | TCACGAGGAG | AGAGTGTTCG | GAGGGATTAT | AAGAGATGGA | 240 |
| | CTTGAACACG | TTATATGGCT | TTCCAAAGTT | TTTTAGAGAA | ACAAATGGCA | GAGAGGACAC | 300 |
| | CTTCTTTTCA | TAGTCAAACA | TTTGGACCTG | CTTCTCTTTG | TTGACAAAGT | AAAGCTGGTT | 360 |
| | CTGGTTTCACA | GCCACAGGTG | GTCTCTCACG | GTCCAGTTTA | AAGACCATGA | TACCCGAGTC | 420 |
| | ATGCGCCGCG | CCAAAGAGGT | TCACATTAGG | GTGCGCCCTA | ATCGACCAGA | ATCTGTCTCTG | 480 |
| 10 | TTCTCTTTTG | AACTGTTTTA | CAGGAGTGCG | CTTGCTTAGA | TCCCAGACCC | TAATGGTAGA | 540 |
| | ATCCTCGCCG | ACAGAGATAA | TTAGGTTTTG | AAATGGGTGA | AATATTACAC | TGTCGACGTT | 600 |
| | GTTCTGTATGA | CCCTGCACCT | GTGACCTCC | CACGCTTTGG | TGGAGCTCAT | ACGCCACAAC | 660 |
| | TTGACCTGTC | TGCTTTCAGA | ACCGGAGACA | ATCAAGGGCA | GAATCGGATG | GAACGAAGG | |

1431RP

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|----|-------------|-------------|-------------|------------|-------------|-------------|-----|
| | GATCATGTTA | TACAGACCTT | CAAAGTTGAT | ACCAAAACCC | TCAATGGACT | CGCTGACCAT | 60 |
| | ACTTGGTACT | TCCTGTTTTAG | AGGCCCTGCG | GCACACTTAC | TGCCCTCTACA | AGAAAAAAGT | 120 |
| | GTGGCCTCTG | AATGGATCA | CCCTTTTTTCG | GACACTAACC | ATTTGCAATA | CAATGCTATA | 180 |
| 20 | TTGCCTCTAT | CAATGGTCTA | TGACCTTGTT | TGAATCCAAG | CTCGAAATCC | AGCAATGTGT | 240 |
| | AGAGATACTG | CAGCATTTTCG | GTGAGAAATG | GGTTTTTGGC | AAGGAGTGTG | CGGTCTGCTT | 300 |
| | TCAAAATATT | GGAAATGCCA | TACTAGATAT | AAGTCTCTCC | CGAGGACAGG | TAGAAACGCT | 360 |
| | TGATAAATTG | ACTAGGGAGC | TATTTGGAGC | TAGCAATGAA | TACCAAGATA | TATTTGGACGA | 420 |
| | AAATAACGTA | GATATATCCT | GGATTGACCT | GGCTATCTAA | TTTCTGAAAC | CATTGAGAAC | 480 |
| | CTGTTTTAAAC | TATTTGGCAG | TAATTCATAA | TGTATTGGTT | GTTCATAGC | TGAATTGCTA | 540 |
| 25 | TTGCCGCTAT | GGAGTTGCTT | ATGCAATACA | CGGGTTAGTG | GGTGATTGTC | GTGTTCTTAT | 600 |
| | ACCCAAACTA | ACCGAATCCG | GTCTTAATCG | ACTCCGGTAG | ACTTTGTTCAT | CCAGTAAGAC | 660 |
| | ATGTCTTACA | CGCCCGATTA | ATGGTTGTAA | TCTTTAATCG | ATGAATGAGA | AATGGTATAT | 720 |
| | GTATGTGACT | | | | | | |

1431UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTCCTGT | ACCATCATGA | AAGTCTTTTT | ATCACGGGAA | AACCCGTTTC | TCAGGCACAT | 60 |
| | CTGACGCAGT | GCTTGTCGCA | CATCAAAGGT | CAAGTTCCGA | TCCCTTGTTGA | GCGCTTCCAA | 120 |
| | CTCCCAGAAC | TCCTTCTGCA | GATTTTTTAC | TGGGCGCGGC | ACAACTTCTG | CCTGCCTCTG | 180 |
| 35 | GGGCACATAT | TTCTTTAACA | CCTCCTTCGG | AATCTTAAAG | TCCTTCACAT | TATAGCGACT | 240 |
| | TACGAGACCT | TCGAATAAGA | AGAGGCACCT | TATATATACG | TTTGACATAT | CCAGTTTCAT | 300 |
| | CTCGCACCCC | CGCACGATCA | GGTCCCGGTA | GTCCAAGTGC | GCCTTTCTTC | TTGAATTCTG | 360 |
| | AGAGCTCGCC | CCCGAGGATG | AGCCTCGCTG | ATCAGAGGTG | CCTGCTCTCA | GCGAGAGCTG | 420 |
| | TGGCATACTC | GGCTGTGTGG | CAAGCTCCAC | CTTCACCTGC | TTGGCAAAGT | TCACATTTAG | 480 |
| | GCCCTGCGCA | AACGCGTCCA | GTGAGCGGAA | GATATGGTTC | ACCAGCTCGA | GTGGCATCGC | 540 |
| | CATCTTGTTT | ACGTCCAGTG | ACACGTTCCC | TTGGCCTAGC | TGGTGCACTA | GGGCCGCGCT | 600 |
| 40 | CTGTGTGAGT | TGTGCTGCTG | ACACAGAGTC | CAATTCCACT | CGCATCATGC | GCATCGCGTG | 660 |
| | CTTCAACGCA | CGCTCACTGA | TCTCCCTCTG | CTCAGGCATC | TGTGGAGCCT | CTTCTCGGCT | 720 |
| | TC | | | | | | |

1432RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGGAC | TGCCGTGCTT | GGTTGCGCTC | AAGGGAGACT | TAGAAATGAG | GTGTTGGGCC | 60 |
| | GCATTCTGCG | CTGCAGATAG | AAACGAAGAC | AAGATGCCAC | CGTTACCCAA | TTCTCAGCC | 120 |
| | CCAGAGAAAA | AATTCCTGTA | CCGGTGCTTC | CCAGTACCAT | CCTGGTCAAA | GGGTGTGATA | 180 |
| | TCCGAAAATT | TATCCTCACT | GTCTCTCTTG | TATCCTGCAT | CCGAGCGCGT | GCTTTGGCCC | 240 |
| 50 | GCCCCGCGG | GCTCGCCGCG | CGCGCCAGAC | CGCACATGCG | AGTGCCGCGC | GCTCATCTCA | 300 |
| | ATTGGCATGC | TGAGCGACGA | CGAATTGCTG | TGCCCCCGC | TATGCCAGCT | GGCGGCGTCC | 360 |
| | CGGCCACCCC | ACCCAGGCGG | GAGCGACGAG | TTTGTGCTGT | TCCGCTAAAC | CACCGGTGCG | 420 |
| | GACATGAGCC | ACGATTCTGC | TCTTGACACC | CGGCTCTCCA | CATCCGAGCC | CTCCCCCGCC | 480 |
| | GCCACCTCGA | CATCACCTGC | CTCCGGCCCC | GTCCGCGGCT | CCCCATTCCG | CGTCGCTACC | 540 |
| | CGTCTTTTGG | CACCTGCTCG | GCGCCCCCTT | CGCCGCCCCT | CCCCCGTATG | CTTCTTGAAA | 600 |
| 55 | AGTGCCGCGC | GCTCTCTCTG | AGCGACCGCG | ACCGCTTCCG | CTGCTCTGCC | ATCCTTGCTA | 660 |

GCCTCTGCCT GAGAAGAGCA TCTACCTCTC CTCCCTGTTT ATTCCGCCGC CTTTTTGCGA
AACA

720

1432UP

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|------------|------------|-------------|------------|------------|------------|-----|
| GATCCCGGTC | GGCCGCTCCT | CCTCGAACAT | GTCTGTACC | CCGCGCAGCG | GCTGGAACAT | 60 |
| CCCGCCACC | CCACCGTACT | GCCCCGGGAA | GAAGTGTGTG | TCCACCAGCT | GTTCGTGGCG | 120 |
| CGCCTGTGCC | GGCGGCCGCA | TATTCCTCTC | CTCCTGGTAA | GCCTCCTGCT | GCAGAGACTC | 180 |
| CGCCAACTTC | TCGTGCTCGT | ACTCCGCGGC | CGGCCGCGCG | CTTGCAAGCC | CACTGCGTGC | 240 |
| GCCAGCCTGC | GTGTGCGCCG | CGTGCTCGAA | GTACAGCGAG | ATTGCCGTTT | CCACGTCGCC | 300 |
| ACCTGCCATA | TCCAGGAACT | GCCGCGCCAG | CTCCGCGTCG | GCCACACCGC | AGATGCTTTG | 360 |
| GAAATCGCCG | AGCTGCTTGT | CTGAACATCAT | GCTCCTACTT | TCTGGCGCTG | CCGTGCTGTG | 420 |
| TGGCACACTC | AGGAGTTTGT | CTGACGTTGT | CGCTGGCTCC | AGCCTTTTAT | ACCGCGCGCT | 480 |
| GCCACACATG | CGCCGCGCCC | AAACGCTTAT | ACATATACAT | GCTACTTAGT | CCGCCGCTTG | 540 |
| GTACCCCGCC | CGTCTCGAA | GCGCGTGTGC | GTGCCCTGGA | AGTGCACCGG | CTGATCGCCG | 600 |
| CGCGCTCGGG | CGCCG | | | | | |

1433RP

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|-------------|------------|------------|------------|------------|------------|-----|
| GATCGATGCG | GACCACCGTG | CGGAGGAGGC | CGCAGGTGGA | TATGCAGTTT | GCGGCGCTGA | 60 |
| GCGCGCCGAT | TTGAGAGCT | CGCGCGTCCG | CTGGCGTGCC | CGCTTCGCGC | AGCCACGGAA | 120 |
| CCAGCTGACG | CGAGGTGTCT | CCCCCGCGGC | TGGCCGTTTG | CCCGACAGTG | CTCGCCGCTT | 180 |
| GGTAGTTCTG | TAGCCACGCG | GGCCCGTTAA | TCTCGGCCAT | TACGTAGCCG | AGCATCTGCA | 240 |
| CGAGCAGCGG | CGACTCGCGC | ATCTTCTGTA | TTTGAGCAG | CTCGCGCTCG | ACCTTCTCGT | 300 |
| CTGGGTGCGC | CATGTCCGCG | CCCAGCCCGT | ACTGTTCTCT | CAGTCCAGCG | TCTGTACGCT | 360 |
| ACCGTGCTAT | TTGCCGCTCG | TTGAGCACTT | CGTCATTCTC | AGCCACCGGT | ATTCCCAGGA | 420 |
| GCTTGCAATAT | TGCCCGCCGT | TTCTGTAGGA | GAACGTGGTA | GCGCCGGATG | ACCTTACGTG | 480 |
| CTTTGGATGG | TTTGATTGCC | GGCGTATGTT | TGACGGCGCT | CTTGCCCGTA | ATGCTTCTTC | 540 |
| GCTTCTTGCG | CAGCATGTAT | GAAAGTTAAA | CCGCAGTTAC | TACTGGTACT | AGATATGCCC | 600 |
| TCGGAATGCC | ACCCGATGAC | CTGCTGGTGT | ACCTTGCTTT | TGTCATCACG | ATGCTTCGAG | 660 |
| CTGAATCGTT | GAAGAAATTC | GAGTGAAA | | | | |

1433UP

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|-------------|------------|------------|------------|------------|-------------|-----|
| GATCACGGAA | GAAGGCAAGG | TCAAGAAGGT | TACATTTGAT | ATCGAGCCGT | ACAAGCCCAT | 60 |
| CAACACTAAG | CTATACAAGT | GTGACAAATA | GTTCCGGAAG | GAGGTGCTCT | CGGAGCTGCT | 120 |
| GGAGGCTGAC | GAGAAGTTCC | GGTTCAATGT | GATGGATGGT | CAGGGGTGTC | TTTTCCGGTAT | 180 |
| GTTGTCCGGT | AACACCCGGA | CTGTTCTACA | AAAGTTCACT | GTGGAATTGC | CGAAGAAGCA | 240 |
| CGGTAGAGGT | GGTCAATCCG | CGGTGCGTTT | CGCCCGTTTG | AGAGAGGAGA | AGAGACACAA | 300 |
| CTATGTGCGC | AAGGTGCGTG | AGGTGGCAGT | GCAGAACTTC | ATCACAAACG | ACAAAGTTAA | 360 |
| TGTTAAGGGG | CTAATTTTGG | CTGGTTCTGC | GGACTTCAAG | ACGGACTTGG | CCAAGTCTGA | 420 |
| ACTGTTTGAC | CTGAGGTTGG | CAGCGAAGAT | TGTGAAGATT | GTAGATGTAT | CGTACGGTAG | 480 |
| TGAAAATGGT | TTCAACCAGG | CTATTGAGCT | GTCCGCCGAG | GCGCTGGCCA | ACGTTAAGTT | 540 |
| CATTACAGGAG | AAGAAGTTGC | TCACCGAGTA | CTTTGATGAA | ATTTCCAGG | ATTCCGGCAA | 600 |
| ATTCTGCTAC | GGTGTGACG | ATACTCTGAA | AGCGCTAGAT | TGGGTGCGGT | GGAGAAATTG | 660 |
| ATTGTGTTTG | AAAATCTAGA | GATTGTTCCG | GTACGTGTTT | AAGACTTCTG | AA | |

1434RP

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|-------------|------------|------------|------------|------------|------------|-----|
| GATCAGATGC | TTCTGTGGTC | CTAGAGAAGA | CTGCTATTCT | TAACCCTTCG | TCAACGAATA | 60 |
| TAGCCGAGGA | CGAGTTTGTC | GATGCCATAG | CGGAACCTCC | ATCGGCGTCC | GTGGATAGTA | 120 |
| CGCCTTATGT | GACCGCGGCG | CGCGATTATT | CCTCGGAAGA | CACCGGGGAA | CGTTCTGAAC | 180 |
| CTACAATAAC | GGAAATACAA | ACTGCAATTG | AATCACCATC | CACCTTTGGC | GACGATAACG | 240 |
| AGAGTGTATT | TCTTGTAAGT | TCTGCGGACC | TGCATCCATC | GGTGTCTCTT | GCGAGTCAAA | 300 |
| CATTAAACAAC | GGAGAGGCTT | CAAGCCGTTG | CGAACAGCCA | CCAATATAAG | ACCGAGGTGC | 360 |
| AGATTGTAAA | ACAAGACGAA | GATGAAGTAG | AGGATGTTCT | AGAATTGGAC | TCGCCACCAG | 420 |
| CATCTCTGTA | TGATGGTGAT | GTTTTGAAGG | AGGCAGAGAA | AAATGATAGT | AGCAATGTTA | 480 |
| TTCCCTGATG | TTCCATAGAT | ATCGATGAAT | ACCTCGATGA | AAACTTGGTT | AAAACTTCA | 540 |
| CATTGGAAAA | CGCTCTTTCT | TTAGATGAAA | TCTTCGACGA | TGATAATGTA | GTTTTTGGAG | 600 |
| AAGAGAAGCT | GCTTGTGGAT | CCAGACCTAG | AATCCCGGA | ATTAACCTGA | ATGGAACAAG | 660 |
| ATATGGAATC | TGACTATCTG | CCGCTGATTG | AAAATGGTAC | GGAGGCTGTT | CTACAA | |

1434UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 5 | GATCAGGTTT | TCCGGTACGT | GAGAACGTAT | CTAAGGCACA | AAGGGCTTTG | GGCGACTGTG | 60 |
| | CGGACGCTTG | AGTTGCGAGA | TACAGGACAA | AGCTGTTACG | GCGGCAACTG | GTGCAGCAAG | 120 |
| | AGCAGCCGAG | GAGCGATTCT | GCGCGAAGCG | ACGGTGAATT | CGAGCCAGCT | GGTAGCAGGA | 180 |
| | GTGCCGGATC | GTCTATTTAG | TTGCGACGGG | CGTCCGAACA | GGATGCACGT | AAACGTTGCG | 240 |
| | GTAACACGCG | ACGCTGACGC | GACGGCTGCT | ACGCCGATAG | CACGGGAGCG | CAAACGACGG | 300 |
| | CAGCCGCTGT | CGCCAGAGAT | GTCTTCACCA | CTGCGCGGTA | GCAAGCTGCA | GCGGCGGAAG | 360 |
| | CAGACACTTG | AGGCCGGTCC | GGGTCCGCGC | AGTGGGACAC | ACACGGTGGA | CGAGCTGGCC | 420 |
| 10 | GCGCAGCTGG | AGCGCGGCTG | CGAGCAGGGC | TCCGAGCGGA | AGCCGCCGTA | CTCGTATGCG | 480 |
| | GTGCTGATCG | GCGTTGCGAT | CCTACAGTCG | CAGGAGGGCA | AGCTGACCTG | TCGCAGATAT | 540 |
| | ACCGGTGGAT | CTCGTCCCTC | TTCCCTTACT | ACCGGCTGTG | TGACGCGGGG | TGGCAGAACA | 600 |
| | GCATCCGGCA | CAACTTGTCT | CTGAACGAAG | CGTTTGTCAA | GGGCGGCAAA | TCGCTCGATG | 660 |
| | GCAAGGGCCA | CTTCTGGGAG | ATCAAGGCAC | TGTGAAGGCG | CTTCTCCGCG | ATGGG | |

1435UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 20 | GATCCGATGC | TACCCGTCGC | CCTGCCAACC | CGTTTCGCTA | GCGTTGACGC | CTAGGTCTGA | 60 |
| | AACTGAACAA | CAGGTGGCAT | TGTGGGCGGG | CCAGCAGGCC | CTGGCGCGAC | CATGCCGCCA | 120 |
| | TGGGCGGCGA | ATAATACCAC | CAGTTGTGAA | GCCCAGGTGT | CTGTAATCTG | CACCGAACAT | 180 |
| | CTTTATCTAC | CAAGGAGGAG | CCTTGAAAAT | TATATATCTA | CCCTCCCCCC | TAATATATTT | 240 |
| | GACCAATTCT | CTCTCCGGAA | ACCGAATGAT | CGAAGACGCC | ATCAGGGCAG | CGGACAGCAC | 300 |
| | AGGAAGTGAG | GAGTGATCTC | GCAGGTACGA | TGGAAGCACA | GTCTATACAG | TCTATTCCGT | 360 |
| | CGAACCAAG | CGTACGGAGC | ATCSGAGCA | CGAGCGGAAC | CGCAGACGAG | TCGCTAATCT | 420 |
| | TTGAACGGAG | CGTTGAGGAT | CGTTTGGCCC | CGTGAAGGAC | GCGAAGGGTT | GCAGCCTGTG | 480 |
| | TGGTGTCTCC | CAGGCAGGGT | CTCTGCACGC | CGGGGTATCG | GCGACTGGGG | GCGCGTCT | |

1436RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| 30 | GATCAACCTC | GGAAACGTAT | TTAAAAGCTT | GTACTCGACA | TCATTAAAGTC | TTCTCCTCGT | 60 |
| | TTCTTTTGGT | AAAGTATWAG | CATCCAGTAA | AGTAACAACG | AAATGCAATG | CTGAAAGATC | 120 |
| | GTATACCCTA | GACGACCTAA | ATGGGGTATT | TTGATCATCC | ATACTAGCTT | GAAGATCAAT | 180 |
| | GAAGTCAATA | ATAGTGTGGA | CAGACTCAGG | GGAGAGTTTG | GACTTGATGT | ATTCTCTAAA | 240 |
| | GCCAGTCCAT | CCCACCTTCC | TAGCACTAGG | AGTAATCTTC | AGCGATTCTT | TAAACGGAAAT | 300 |
| | ACTTCTGATA | AAATCCTCCA | GCTTTTPTTC | CTCGTAAAGG | ATCTGTACAA | AATTAGCAAG | 360 |
| | CGGGGTGGTA | TCCTTGTTAA | TTATGATTCT | TCCAACCTCA | ATGACCTTGT | GGTTGGGGAT | 420 |
| 35 | TTTCTTGATA | AGCTCACCAA | ATACCATCGG | AGATTTTTC | AATACTTGGA | CCATTAGAGT | 480 |
| | GACCAATAGT | TCGTTAATAA | TCGCCTTATT | TTCAACCATA | AGACTGAAAT | GCTTCGTTTC | 540 |
| | TGAGATCAAA | GTCAAGGCCA | AATATTCGGG | AACAATATTG | TAATCATCGA | AGAAACAATC | 600 |
| | ATGGAATAAT | TGGAACATAG | GACTGGAGCC | AAACTCCTCT | CTTGATAAGA | ACAGTTCAAT | 660 |
| | ATCGAGCTTC | GATACCGATG | TGAGATATAA | CAAGGAGTTC | TTTGAGTTTG | GGAGTACTTT | 720 |
| | AGAGACTT | | | | | | |

1436UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCCAGAAG | ATTATCCGAC | AATATTAGTG | ATATCAAGGC | ACAGATCGCT | GCCAACACTA | 60 |
| | GAGGTATTCA | ATTGCTTAAC | CAACTGGTTG | ACGTTTTCGG | TCTAGGGACT | GTTACAAGGT | 120 |
| | ACATGGACGC | AATTCAGGAA | AATGCAGCTC | TTACTGTAAA | GAATGTCTTG | CGAAAGATTA | 180 |
| | CCAAGCAATT | TGGCAAAACC | GTCTATTCCG | CCGAGGATTA | TATGGATGAT | GGCTCTGTTA | 240 |
| | TAAAACCTAG | GGTGGAGCTA | AATGCTAAGG | AAGATAAGTA | TATTTTGTAT | TTTACGGGGA | 300 |
| | CTTCTCCACA | GGTCCACGGT | AACCTCAATG | CACCTGTTGC | TATTACCAAC | TCTGCCATCT | 360 |
| | TATACTGCTT | ACGTTGTTTT | GTAGACGAAG | AGATTCCGCT | CAACCAGGGC | TGCCTAAAGC | 420 |
| | CCATTACTGT | TATTATTCCA | GAGAGCTCTA | TCCTATGGCC | GACCAAGGGT | GTCGCGGTAG | 480 |
| 50 | TGGGAGGTAA | TGTCATGACG | TCTCAGCGTG | TAACTGACGT | AATTCTCAAA | ACTTTTAAAG | 540 |
| | TCATGGCGGA | CTCCCAAGGA | GACTGCAATA | ACTTTACTTT | TGGGACAGGT | GGGAACGACG | 600 |
| | CTTCTACCGG | TGAATATACT | CAGGGTTTTG | GATATTATGA | AACCATATGT | GGCGGGCATG | 660 |
| | GTGCAGGTGG | AGATCATGGC | GTGGTCCGGG | GTGGCATGGA | ACACATCCTG | TTC | |

1437RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 5 | GATCGCGCGC | GAGCTATCGC | TTCCGCGCGT | CAAGCTGCAC | TGTAGTATGC | TCGCGGAGGA | 60 |
| | CGCCATCAAG | GCCGCCATCA | AGGACTACCG | CAGCAAGCGC | AAGGCGACCG | AGCTGCGCTG | 120 |
| | AGCGCAGGCC | GCCGCAGCCT | GTCGGCGGCC | GGCCGCGCGC | AGCCGCAGAG | GGACGTCCGC | 180 |
| | GGGCGGCGCA | GAGCCGCCCC | TTTTCTATGT | AGCGACTCKA | GCATCTAATA | GACATGGTAA | 240 |
| | TAGCTTCTCG | TTTTCTACGT | TTGCACACAG | TATACAAAAT | TTTCACGCAG | CTCATCGCCA | 300 |
| | CTTCCACTTG | CTGAAGCGCA | GGTACGGCAC | CAAGACCTCG | GCTATGTCCT | CGACTCTCTT | 360 |
| | TGACGACATC | TTCACGATCC | AGGAAGTGGA | CCAGGGACGG | TACAATAAGG | TATCGCGGAT | 420 |
| 10 | TGAGGCCATC | TCCACGTCCG | AGGACACGTG | CAAGCTGACG | CTGGATGTGA | ACACAGAGCT | 480 |
| | CTTCCCCTCG | CAACCACAAC | AGCAGCTAAC | GGTGATGCTG | GCGACGACAC | TCAACCTCGA | 540 |
| | CGGAACGGAG | GACAGCCACG | GGTCTTGCGG | GCCTCCGGCC | CCTGGGG | | |

1437UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCCGCGCG | GACCGCTACA | ATATTCCCAT | ATGTATTAYA | GGCAACTTTA | TACCCATCTC | 60 |
| | CTAAGTGCAG | TACGTACTGT | TTGTCAGTCT | AGCGTCTCCG | TCGCGGTGAG | CCCCGTGTTG | 120 |
| | CGGTCCACCA | GCGCGCCGAC | CGCGCGCCCG | GGCCCGACGT | GCAGCGCGGC | CGTCGCGCCC | 180 |
| | GCCTGCACCG | CCGTGCGGCA | GGCTGCGACG | AACTCGACCA | CGTTCGTGCT | CGAGCGCAGG | 240 |
| 20 | AACTTCTCCA | CGGCCACGTC | | | | | |

1438RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 25 | GATCTCTTTT | TAACGGCTGT | TACCAATAAC | GATACCGCAG | CTACATCTGG | AGAATAGTCT | 60 |
| | GCATCCCATG | CCTCCAAGTT | CCTGTGAACA | TACTCCTGGG | GATCGACCTC | GAAGCTCTCC | 120 |
| | AAGGTCTCTT | CGCTAGGACA | AAGAAGCGGG | AAGATAACAT | GTTCCAAAAT | GGTTGCATAA | 180 |
| | TGTGGGTCAA | CTATCGGCCA | AGTAGACTTT | TGGACCACTG | TTTGTTCAAT | GAAGTCCAAT | 240 |
| | ATGTAATATA | GCGACTCCTT | GCTTAACCAC | AATTGCGCTG | CACCCACCTT | TTCAATCTGC | 300 |
| | TGGAAATGCA | ACTGCAATAG | TTGCGGCAGA | AACTGCTCCA | CATACAGCAT | TTTAAATTCA | 360 |
| | GTGTACTCAA | ACTTTTTGCT | GAGAGATTCT | GAGGCATAAC | GTTGGAATAA | TCGATACATG | 420 |
| 30 | TTAGCATATG | CCCACTTTTT | GGCTCTGACC | CATGGATGCG | CCCGCCTATC | ATCGACCGCC | 480 |
| | AGCGCCATCA | CATGCTCCGG | CAGCTGGCTT | TGTATCACAG | AAACATGGAA | GTGGGCCAC | 540 |
| | GGAATGAAAGT | TTTCCGACCG | TTGGAGAGTG | AAACGGCAGG | CATTATATGT | CACAAACTTG | 600 |
| | TAGATCTTCA | GCACAAGCTT | CAACATATTC | CCCACGATCT | CGTTGTGCTT | TCCTCGCTGT | 660 |
| | ACAAAAGCGC | GTTTGCGTAG | TGCAGCAAGT | CTGGGAAATA | TCTCATGATC | AGCATCTCCA | 720 |
| 35 | GCTCCTGA | | | | | | |

1438UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 40 | GATCGGCAAA | CCTAATGCGT | CTGGACGTAA | TGTAATCCAA | CAGCGACTGT | AGAGCTGCCT | 60 |
| | GCGGTTCTCC | GACAGAAATC | AGCTCATCTG | CCCGCTTCAA | GGCGTTTTCA | GGGCGCAAAA | 120 |
| | CAGGTGGAGC | CATGCTGAAT | TAGAGCTATT | TGGTGACCTG | TTTGAGTAGT | GTGGACTTCC | 180 |
| | TTTGAATGTG | GTGAACCTTG | AAGTAGGTTA | TTCAACTAGA | AAATTTTTCA | CCCAGAAGGA | 240 |
| | TGCCCTCTAT | CAGCGGCCGT | GTCTGACGAT | GATCTCAACC | GCGTAAAGGA | CGAGAAGTCG | 300 |
| | TAGGTGAGT | CTAATCTACT | ATTGGTACTG | ATGAACGGGA | CTGGCCAGCT | AACGTGAAGG | 360 |
| | CACTGTCTGC | GGGATGAGGC | CCCAGCGCCA | GCGCACGGGC | CCTGCGATGA | GCACAGGTTG | 420 |
| | CCTCGAGACG | ATTGCGATCG | GCTGACGGGA | AGCCAGGTTT | CCACAGCGTT | GGCGGACTCG | 480 |
| 45 | CGTCGTGAGG | CTGGAACGTG | AGAAGGGTTG | TCTTGAGCTC | CGCGCACGCC | GCACGCTGCC | 540 |
| | CAGGTAGCTG | GCGGGCCGTG | TTCATCGCGC | ACAGCGGTGG | GCTCGCTGTC | ACGTGGCATC | 600 |
| | GAATATGTCA | CGTGATTACA | CGCAGCAGGG | CATCGCAGAC | AATGCGCAAG | CAGCAACAGG | 660 |
| | AGGAGGGTGT | GATCGGTGGT | GTGCGTTTAA | GAGTATGTGA | GCTGTGCAGC | TGGCTCCCA | 720 |
| | TCTCTGGGTT | TACTCGTACC | TGTGCGCTTA | TATAGGCATT | GCCAAAAGGT | TTCC | |
| 50 | | | | | | | |
| 55 | | | | | | | |

1439RP

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|----|-------------|------------|------------|-------------|-------------|-------------|-----|
| 5 | GATCCTGTGTG | GACGTCTTGC | AAAGTCGTGG | TCACCCCGAC | CAACTTCTCC | TCTGTAATAC | 60 |
| | CGCTGTACTT | CGTTAAGTAG | TCCACAATGG | GCTCATCTGG | CTTGACAAAC | TTGTCATAAA | 120 |
| | CTAAGTTACA | ATCAAAATCG | ACGACGCTCA | CACGCGTCAA | CACGTATCCG | TTTTTTGAAA | 180 |
| | GGCACATCTC | ACAGTCGATG | GCAAACGTGT | GAGAACCGTC | GTGTTGGAAA | CTGACAGTGT | 240 |
| | CCACCCACCC | ACTGTACTTC | TCCTTATTCT | GATACTTTAG | CAACAAAGCC | TTTTGGTACT | 300 |
| | CCTCCGATAA | GCCAGGTGTG | TTTAGATGGA | TGGGGTACTC | ATTATGCAAT | AAGTCATCAA | 360 |
| | CGGTCAATTAG | CAAATCAAGC | AAAGTGATTT | CCTTTTTTGT | CAATGTGTTCC | ACCTTTGCGA | 420 |
| 10 | TCTTCCTCCT | TTTGTACAAG | CCTACATTGA | CAAAAGAATT | GTATGCAGAA | AATAGGGAAT | 480 |
| | TCTTTGATCC | CGGCGCTGAT | AACGGCAAGA | TACACATTG | CTTGCACATC | TGTTCAATTTT | 540 |
| | CACTAATCGA | GTTTAGATGT | GCGTCTTGCA | ATTTCCGGAAT | ATTTTTATGA | AACAATGAAT | 600 |
| | CCTTCGGTAG | ACTGAAGTCC | TCGGGTAAAA | GGCCTGGAGT | GAATAAGACG | ACCACCTTCT | 660 |
| | TCAAAGAGGC | CTATTTTCTA | TCGTAATCCA | GTTGGGAGAG | TTGTTCGTAT | CGTGGAATAT | 720 |
| | GTACTGGA | | | | | | |

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1440RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 35 | GATCTATTCT | TCATTACAGCA | ATCAACAAGA | GCTGGTGAAA | CTTGGGCAAG | AAGCTGAGCA | 60 |
| | AAGCGGTAAA | TACAACCTGG | CATTCAATGC | ATACTGGATT | GCAGGAGATA | TCAACAAGGC | 120 |
| | CAGGGACGTG | CTTTCGAAGA | GCGGACGCCA | TTCCGAGGCT | GTGCTTCTGG | CATCCACATA | 180 |
| | CACCTCAGAC | AATGACGCCA | TCAACGCTGC | TGTAGAAAAA | TGGAAGGAAC | AACTGAACTC | 240 |
| | AGCTGGAAGA | GTATCTATCG | CAGAAAGAAT | TATACTTTCC | GGAGAAGACG | ACTTCCCTGC | 300 |
| | AGCTCCCCAG | ACTTTGGTCG | AAATGGATGA | CGGATCAGAG | TCCGCGTCTA | AATAAACTAT | 360 |
| | AATTTTAAAG | ATAACAGCAG | GAATAAATTA | ATTACCACGA | AGGAAATTTG | TATGTACATT | 420 |
| | CTAACTAGAC | CCAATGGTAG | AAATTCATTG | CGTAAACACG | GCAACCTTAT | CAATATCTTT | 480 |
| 40 | CCGTTTGTC | AGTCCGACAA | AGTAAAGTTC | TTTGGATTCA | GATCGGCATG | CTTCCGGCTT | 540 |
| | AAAACGCCGC | ACTTTGGTGA | ATACCTTTTC | CAGACGCCGT | TCTAATAGCT | GGTCTTCCCT | 600 |
| | GCCAGTGAT | AACTTGCAAA | CGAATGAGCC | ACCGGGCCTC | AACAATGCAA | TTGCACATAG | 660 |
| | CAGTGCTGCG | TTACACAAAG | TCCATCGACA | TGTA | | | |

1440UP

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|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| 45 | GATCCTACAG | AAATAATCCA | GTACAAGGTA | CCTCTAATCT | ACTGTGTTAA | CATGGAAAAC | 60 |
| | ATTTCCGCTT | TAGGCTTTTT | CTTTTCACCG | AAAAGGTAAC | GTGTTTCGAAA | CATATATCAC | 120 |
| | GGGTTTCGAAA | CTGACTAAGG | TTGCTCATGC | CTAAACCAGA | TAGGCAGCAA | TGGCAAGGGG | 180 |
| | CTTGAGGTGG | TACCAGAAAA | GCTGCCACCT | CCTGCTGCGT | GCTTACTCTC | GCAAAACGGTG | 240 |
| 50 | TATACTATTA | GTGTTGGAGT | ATTTATTGCT | TATTAAATAA | CCGAATTGTG | GGCCTAGAAG | 300 |
| | TGGCGATTAT | CAGTGAAGCAG | CAGCGGCTGG | CAGCGCAGAC | TGCTCGCGAA | GCCGAGCAGC | 360 |
| | TGCGTTTGAG | GCAGCGTTTA | GAGCTGCAGC | CGTGACCATC | AAACCTTCGC | CGCGGAGGAC | 420 |
| | GAGTATGAGG | GCTAGCTCGA | GGCGCATCAA | GAGCTTCTTC | GATATGCCGC | AGACCTTGCT | 480 |
| | GAAATACTCG | TGGGAGTGCA | CGGTGTCTTC | CACAATCTTG | GTTGAGACAC | GTATCAAGGC | 540 |
| | CACTATGAAG | CGATGCACAT | ACCTCTCGGC | GATGGGCCAG | CGGATCTGCA | CCGGACCGGT | 600 |
| 55 | TTCCGAAGGA | GGCCATTTTA | GCGTGAGGCG | GAGTAACAAG | CAGCCCGCGG | TCTGGTAGAC | 660 |

TATGGGCGCA AACATGCATT TGGCGTTGAT GCCGTCTAGG TACTGCGTAT AC

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1442RP

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|------------|------------|------------|------------|------------|------------|-----|
| GATCAATTCG | GTCTTCATCC | GATGAGACAT | TTTGAAAATT | GTTGGAATAT | TGGGCAACAT | 60 |
| CAGGGTATGG | TAACACCTCC | GGTTCTAAAC | TTCTAATCGG | TAGCCTCGTC | GCGCGTGTA | 120 |
| CGCATGGATC | ATCAATGGAC | GGTGCTGGGG | GCGATCTAGA | CACGCCCGAA | TTGGGGCTTG | 180 |
| GTGTGAGGTT | TTCGTCCGGA | CTTCTCACTT | TATCAGGTAT | GACTATCACT | TGATGATTCA | 240 |
| TTAGATTCCG | TGTATCCACA | ACATGGACGT | GGCTTTGGTG | TTCCGAGATA | AATAGTAGGT | 300 |
| CATCAAACGA | GCGGCTAAAC | TTGCACACCC | TAAAGGACCC | GTTCTGTGCA | TGTCTTCGAG | 360 |
| TTGAAGGTAT | CTCCGCAAGA | GGCGTGTCCA | TTTTTCTCAT | ATCGTACACC | AGACAGAGGC | 420 |
| CGTTTTGGAA | TATCGTAGCC | ATGTGCACGT | CGTTTTCCGT | ATAGCTTGTG | TAAAAGCCGT | 480 |
| TATCACCAAC | AGGCGAATCG | TAAATACGAT | CTAGGACTTC | GGATCTATCG | ACCGCGGCAT | 540 |
| ACCTTGGAAC | GCACTTTGTG | CGCGACCATT | TTGAACCCCA | CTCAGGAGCG | GCGTCATATT | 600 |
| GTAATGAAAA | ACAACCGCTT | AGTTCATCTG | TCTATAGACC | GCAAACCTTC | TGGAATCTCC | 660 |
| CGAAACCACC | ATCGTCTTCC | CATCGTGTGA | TATTGCCGAG | CAGTTTAAAG | CAAAATTTAA | 720 |
| GT | | | | | | |

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1442UP

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|------------|------------|-------------|-------------|-------------|-------------|-----|
| GATCAAGGCT | GGGAAGTTGG | CGTTGACTGG | CTTGGCCTGC | GCAGGCTCTC | TGTTGCCGCT | 60 |
| CTTGCCGCCT | CTGTTGCCGC | CCTTGCCGCC | TCTTTTGTGG | TCTCTCTGGT | CGCGAGACTT | 120 |
| AGGAGCAAAG | GACTCGGTGC | CATCAAACCTC | TAGGAACTGC | TTGGCCTTCA | AGTGCTTCGT | 180 |
| CTTGACGTTT | TTGACCTTGG | TAGCCTCCAT | GAAGACCTCC | TGCTTCTTAA | CGAACAACCTC | 240 |
| AGCGTCGTGG | AACCTTCTGA | CCTTTCTGGC | GACAGGGGCC | TTGTTTCAGGT | CGGAGTTCTG | 300 |
| CTGCTCCAAG | TACGCCCTCA | AGGTGACGGC | AGCTGCAGTG | GCCTGCTCCT | CCTCGGCAGC | 360 |
| GTCCGGCGGC | AACCTCCGCT | CGGCAACAGC | GGCACCAGCC | TCCTCATCGG | CCTGCTCCTT | 420 |
| CTCGTTGTGG | CCCCACGCCT | GCTTGATCTT | CTTGGCAGAG | TCAGTCTTGC | CGGTTCTCGA | 480 |
| GTGGCGGTCA | AAGGTCTTTC | TGCTGTCTCT | GGCTGGCTTG | CCTGGCGCAA | GAGCGTCTCT | 540 |
| GGACTTGTTC | TGCGAACGGC | CGGCCTGCTT | GTCTCTGAAC | GCAGCCTCGT | TGCCGGTTGG | 600 |
| CTTTGGTCTG | TTGTTCTTGG | CACGCGATGG | GTCCGGCAGAT | GGAGGAAGCA | CGTCCGCTCT | 660 |
| CTTGGAAGAG | GTGGTCTTCT | TCACAAGCTC | CTTTGGAGGA | GACACAACAA | CGGTGGCGTC | 720 |

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1443RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTATGCG | GTGCTGTGCG | CGTGCATCGA | CCAGCACAAG | AGCTTCGAAT | TCGATAGCGG | 60 |
| | GAGCTTCTTC | TTTCAGTACG | TCGAAGGCAT | CTACTCGTAC | AGGACTGCGA | GCCTTCTTGC | 120 |
| 5 | GGGCTATCTG | CGGACGCACT | CCGTGCGGAC | GGCCAGCCAG | TACGCCAAGG | TCTTCCTAGA | 180 |
| | CCGCGCGCCC | TCGCCACGTC | AGGCCGAGGT | GCTGCTGCTG | GGCATTAGTG | CGGATGCCGA | 240 |
| | CGCCATGCGAG | CGGCTAGTGC | AGGAGTGCAA | AACGAGTGGA | GCCGTGACAT | CTGCGAGCTT | 300 |
| | CTCGCTTCTC | ACAGAGTGCC | TCGACATATA | CCTGTCGTAT | GTGAACGATA | CCGTTTGTCT | 360 |
| | GGGGCCCCAAG | AGCAACTTCC | CGCTTGAAGA | TCTCGTGGTG | TTTTGCAACT | TGGTGCCTGA | 420 |
| | CGCGATATCT | CAGGCTTTGC | GTGCTGAGCA | TGATTATGAG | GTGAACAAGA | TGCGCCGCGC | 480 |
| 10 | GCTCTCCTTA | CTCCAAAAGC | TGTATATTAG | GGATAGAAGG | ACCAATTTCC | TCTCCGCGGC | 540 |
| | CAAGGGGGAC | GACTTCTGGG | TCATTGCGGA | TACCACGGTG | AAAAACTGCG | ACATTACATC | 600 |
| | TCTCCTTCTT | TACTTTGATC | AGTTCTACAG | AGAACAGTTG | GATTTGTTCC | TGGCGCAGGG | 660 |
| | CCGTGCTCGG | CACGAGGTCC | CAGCGGCGAT | CTCGTAGCGT | GGGAAAACGA | TATAAA | |

1443UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGGCAT | TTACATCTGA | CATGTAACCG | GGTGGTCTCG | TAGGTAGGGT | GTTCAATGTA | 60 |
| | AACTGGTCCG | AGTTCGAAGT | TGGGGTAGTA | CTAAATTCGA | ACCCCGGTGG | CGGTGGTAGA | 120 |
| | AGATGGCCAT | CGTGAAGGTG | TTCCACAAAA | CTATTCTGTT | CACCCCTCGGA | TACTTCATCT | 180 |
| 20 | TCATAACTGC | TTTCTAACAA | TACATCTCGG | TCATAGTCTT | CGTAGGCTGG | TGGAGGCAGC | 240 |
| | TTTCATGCCGT | TCAGCTTTGC | ATATCCCCAT | TTCTTTACGT | TTGCTTCAAT | GTAAGCGAAT | 300 |
| | CCGTAGGTCC | CGAAATTAAC | GTGTATCTTG | CATGGGACAT | TGCGACCAAC | AATCGGGTAA | 360 |
| | AGATACTTAA | TTTTCCAGCC | CTTTATGTGG | CCACCAATGC | GTTCCTCAT | TAACTTCTTG | 420 |
| | CCATTGCGCG | TGAAGAAAAC | TGTGCCGCTC | CGAGTTCTGT | AGCCAATCCC | GATGACGTCG | 480 |
| | CCCTTTTTCG | AGCGGGGGAA | TAGTGAAGAG | AGTTCTCTGG | GGAGCTTAAA | CGAGTTGTTT | 540 |
| 25 | AACCTACGTG | CTCCATTAGA | GTCAATGCA | ACTGAGTGAT | GGTGTCTGCC | GGGAAGCCTA | 600 |
| | AAATAGGGAT | ACGGCGATGT | AGCAAGACCA | AAGGAAACTA | TTTGGTTTTC | TGAGAGATGG | 660 |
| | CTGACCGGGC | GGCCAAGCCT | GTCACAGAGT | CGAAGATCTT | GCACTCGAAG | T | |

1444RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCTGGTTT | TATAGGTTCA | CGAAGGGACT | CTGGACGCGG | ACCCTGCTGA | AGTGTGCCAA | 60 |
| | CATGCTGTAC | TTGCTGGCCG | TGATGCATTT | CTACGACGAC | TACGAGCAGC | CGCCGGTACT | 120 |
| | GAAGAACATT | GGGTACTCGA | TCTTTATTCT | GAGCATGCGG | ATGAATCAGG | CACTGCATCA | 180 |
| | CGGCGGGCGG | CTATTACAGG | GGCGACGCGG | GCGGCGGTCC | TGGTGGTGCC | GGTCCGACAC | 240 |
| 35 | ATTTGTGCTG | CAGCCCGCAC | TATATATCAG | CCAGTTCTAC | CTGCTGCTAC | TGAATGTACA | 300 |
| | GAACCCGAGC | TTTCATTTCGA | CGCCGAAGCT | TGACATAATT | AATCGCACGG | TGCTGGTGCC | 360 |
| | CTACGTGCCC | CTGGCGCTTC | AGTGCTTTTCG | TGCGGACGCT | ACGAGCTAAG | TCACTCGGGC | 420 |
| | AGGAGCTGCT | CCGTGAGCTC | GTGTGCTATG | CGTGCGGCGT | ATTGCTCAGC | GGCATGAACA | 480 |
| | TCTGTTATCT | CTAAATAGCG | TTCTCTAGCT | TGCTTAAATC | TGGTTACCAC | ACTGTCGAGC | 540 |
| | GGTATATCTG | CCTGCAAGGG | ATCCAGCTCT | GCGAAGGCTG | CAGCGGTGCA | CGCGTGCATA | 600 |
| | CGCAGCATAC | GCTCGCTCCA | GGGGATGGAT | ATCCAGCAGC | TGCGGCACAC | TTCCCCCCCC | 660 |
| 40 | TGCTGTTCCC | CCAGCTCGTT | TGTGCCGCGC | TCGCGCCATC | TGAGAAGCGC | ACGTCGTGCA | 720 |
| | CTTCGAGGGC | ACGCTC | | | | | |

1444UP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCAAATA | CATCCGGTAT | ATATGCTACT | TGTGCCAGAA | GACATGAAAA | GCAAGCATCA | 60 |
| | AGGGAGCTAA | TGAGCATTC | ACAGGAAAAG | GCGGAAGAAT | ACTACGTTGA | TGAACCTCAA | 120 |
| | GCTATCGCAG | AGACTGAACT | CTTGAGCGAC | AAAGAAGATG | AAGAAGAACT | ATCTGTGGAA | 180 |
| | GAGCAGGTGC | AGAAAGAGCT | AGAGCAATTG | AAGAAAGGCA | GTGGTCTGT | GGATACCAAA | 240 |
| | AAGAAACCGG | TCCTGCAAGA | GATTCAGTTG | GGATGTGAAT | GTATGGTCTT | CATCAAGACT | 300 |
| 50 | AGAAAGACCA | TCAAGCCGGA | ATGCTTTGTC | AAACGCCCTAG | TACAGGAACT | TGCACTGCTA | 360 |
| | GAAAATACTA | CCAAGGTTTC | GCGGTACGTC | CAGAGATTGA | CACCCATCAC | TGATTCTCTG | 420 |
| | AATGCTAGTC | TAACAGAATT | GGAAAACTC | TGCAGAAGGG | TGCTTGCTCC | TCAATTCCTAT | 480 |
| | ACTGACAAAG | AGATAAAGTA | CAAGTTTCGG | GTCGAGGTGG | TAAAACGTAA | CTTCAACACG | 540 |
| | ATAGACAAAA | TGGATATCAT | TAACTTTGTG | GCGAAGGAGG | TCGGTAAGAG | TGGGGATTGG | 600 |
| | GGGCACTCTG | TGGACCTAAA | GGACTACGAC | AAGCTGGTCA | TCGTGCAGTG | CTATAAGAAC | 660 |
| 55 | ATGCTGCGGC | TGCTGCTGCT | GGACAGGAT | TACTCTGTGG | CTCTTAAAA | | |

1445RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCATCTTC | CGAACATACT | CGAGGAGGTT | CGCGTTCCGG | AAGTTCTTGT | ATCGTTGCA | 60 |
| | GTAGTGGAAT | TGCTCGTAAT | CGTCTGTAAA | TAGAAAATTG | GCGTCAATCA | TGTTGTCCCC | 120 |
| 5 | GTGGACGCG | CCGGAAATGA | ACATGAACGG | TGGCAGCCCG | TAGCGCACCT | TCTGGCCCCG | 180 |
| | GCACGCGCG | AGAATCGCAT | CGTTGGTGCG | CAAAATATCG | CTGTACGCGA | CCGGCATCTT | 240 |
| | CTCTTCTTCG | ATGGGCTCCA | ACACCGCCAT | CTTCAACAAC | TGCGGCCCAT | AGCTCATCTC | 300 |
| | CATCTCCCCG | GAGAGGAGAT | TGTAGTGCGC | CTGCGGGGGC | CGACTCGTGC | CCGACTGCTC | 360 |
| | CGAACGCAGC | AACGTCGACG | TGCTATTCAA | GCTAGTGTTC | GAAAAGTGCA | CATGCTCGTC | 420 |
| | ATACGAGGAA | CAGCTGAGCG | CCATCTCGGT | CACGCTGAGA | AGGTACTGTT | CTTCCCGCGT | 480 |
| 10 | GTACAAAGAC | CCCGCCTTGT | ATGTCGAGCC | TCTGGTGCAT | TCCATTGGTG | TGCGCATTGC | 540 |
| | TCTGGCGCAG | CCTGATACAC | TGCGCGTCGA | AATACTACCG | CACCACCGCA | CGAACGACCT | 600 |
| | TTCCGCCATT | CTTTTGGTTT | ATAAAACCCG | ACTACGCATA | TATTTTCATCC | TGCTCTGGCA | 660 |
| | TGTCCCGATG | CCGTCTCCG | TGTGACATAG | CTGCTTATTC | ATCCTGGGCG | TTCAATT | |

1445UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCTTACT | GACGAGGAAG | AATCGAGCAA | TAAAGTTGAC | GCCGCTTCGA | GCTCTAATAG | 60 |
| | CGGTAAGAGC | ACCGCTAGTA | AACGTCAGC | CAAACTAGG | AAGCCTAAGG | CTGACACTGC | 120 |
| | GGCTACGAAA | AKCGGAACCA | CCTCCCGGAT | GCCCAAGACT | GCTGCTTTGC | AGGCGCTGCT | 180 |
| 20 | GAACAAGAAA | AGGGGGGCTT | CGGCAGAATA | GACTACTGGT | AAACGTAAGT | AATAGTATAA | 240 |
| | ACTTGGTTTT | TTAATCCCTG | GCTATCTCAG | ACTGCTAAAG | CATGGCCGTT | TAGGTGTGGC | 300 |
| | CTCCTCGGTA | GATGGTTTGC | ACCACGCAAG | GTGAAAAA | GATCACCAC | CCTGAAAAAC | 360 |
| | GTTTAAACACT | TGTCAATCTC | TAAAGGCGCT | GCAATCAAGG | CATATTACCA | TTGTGGAGCC | 420 |
| | ATGAATCTTG | CCAATGAACC | GAAGTTCCAA | ATACAAGTTG | ATGAAACAGA | GGATACAGAG | 480 |
| | TGGAACGATA | TTTTGAGGCA | GCAATGCTGC | ATCCAGAAC | GGCCACCTTC | ACCGACCGCA | 540 |
| 25 | CAGCTCGAGG | AAGCGCTCGA | GGAAGTGCTA | CNGAGACCAC | ACGAGAATAG | ATTAGAGAAC | 600 |
| | AAAGACTCTC | TGAAGTGGAG | GACTGGAAGA | TGAAGAAGAT | GATGAATTTT | TGGAGTTTTA | 660 |
| | CCAACGTAAG | AGAATGGCAG | AAATGCAGAA | GCAACAAAGA | AGCGCAAGTA | TGGGGAC | |

1446RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCAGG | CTGCTACGGA | GGAATCTGTT | TCCGAGGTTG | CTCGCCTGAG | TAAAGACCCA | 60 |
| | AACTTTCTTA | GCATTTTCGC | GCAGGAGCTA | CAGAAGCTTA | CTGGTGAGCC | CCATATAGGC | 120 |
| | GGCAAGGTGG | ATGATATAAC | GGTAGTGATG | GTGAAGGTAG | ACTAGTAGAT | TGCACATATG | 180 |
| | TAGAATTACT | AATATCATT | GAATTTCTGG | CTTAAGACAA | TGTTCTTAAT | CCGCTCTCTC | 240 |
| | TGCTCTTCA | ATCTCTGCTC | GCCTTCTAGT | ACGTCATGAA | CAAACTTGAC | GTCGGTCCGC | 300 |
| 35 | AGGCATATCG | GGCGGAGTTG | AGTCCGCTTT | CCTGATTTGC | TGAGAAACGT | AAAGGGCACC | 360 |
| | TTACCCGCTT | CGACTTTTGA | TGACAGATTG | CTGTTGACCT | GTGTGCTGGT | CCCAGATCCA | 420 |
| | ACGATAGGAA | TGTTGTTCAT | GGGGATTTTC | TCATTCTTGC | GGGATTCTAA | AGATTGTTGC | 480 |
| | ATCACAGCTT | GGTACATCTT | TTCCATTTC | TCTTCTGCTC | TCCGCTCCTC | CTCCGACTTT | 540 |
| | AGCTTTCTTT | CGTATTCTTC | GTTTATCTTT | TTGCGCTCTA | GATCTCTGTC | AATAGTAAAC | 600 |
| | ACGTCTGTGT | CGTCGTCAGT | ATCTTCTTCA | CTTTCACTGC | TTGACGGGGA | ATCACTATCG | 660 |
| 40 | TCGTATCCT | CATCGTTATC | TTCTCTGAT | AAGTGCTATT | AACGTCTTCT | TCTTCTACCT | 720 |
| | CGCTGGAGTC | GGCACTGTCT | CCACTACTAG | ACTCGTAGCC | ACTATCTTCG | TCCTC | |

1446UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAATTAC | ACTACTAGCA | ATCTACTTTT | CAACAATCTG | ACTGTCCGCG | AGGTTAAACT | 60 |
| | CTACCGTGAA | CAGCTGATGG | TACTCAAAGA | GCAGAGGTTT | ATAGTGAGAG | GCATGCTCGA | 120 |
| | GAACGCCAAG | AAACAGCGGC | GTTTTGAAGA | GGTAAATACG | TTAAAGGAAA | ATACCAAAGA | 180 |
| | GCTAGACAA | CAGATAGCCC | AGCTCGAAGA | AACCCTAGGC | GACCAGGGTT | TTGTTTAGTA | 240 |
| | TCTAGCATGG | AGTTTTTTGC | TTAACTATAA | TTACTGTGTA | GATGCCGCG | ATAGCATGTC | 300 |
| | GTAGCATAAT | TGCGAATTTT | CACCAACATG | AAAAAGTGTA | TGTGTATAAG | GCATCCAGTG | 360 |
| 50 | AACTCCTAAC | ATGCTGATGA | GGTTTTAAGT | AAAGATATCA | CTAGCAATGA | ACGTAAGTGC | 420 |
| | AGTTTTTGAG | CTTTATGTCC | TCTGTAGAAC | ATAATATTAA | CGACAGGGGG | ATAGGATGAA | 480 |
| | AGAAGACAGC | AGTTATTTGA | GCTGAACAGT | GAAGCCTGGT | CTGGAATTGA | TGCGTTCCCG | 540 |
| | AATAAAACCA | GCAAGCTTGA | CTCAAGCATC | AAGAGAAACA | CAGGGTTTAT | CAAAAAGCTG | 600 |
| | AAACAGGGTA | TCACGAAAGA | CTCGAAAGAT | C | | | |

1447RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGGAT | GATGAATTTG | ACGAGGAGGG | GGGTGCAGAA | GAGAATGACG | ACTACTCACG | 60 |
| 5 | GTTTAAAGA | TCCTGCATGT | CCTCCACGT | CCCCGGTTG | TAGTAGGCAT | AGCGCTCGTG | 120 |
| | GTACGCGCCG | TGCGCCATGG | CCGGCGCCAT | GGGCGCGGGC | CCATGCGCCC | ACCCCGTGGC | 180 |
| | GTACATGTTCG | TACATCCGGC | GCCGCGACGC | GTCCGAAAGC | AGCGCGTAGG | CCTCGTTAAC | 240 |
| | CAGCTTGAAG | CGCCGCGAGC | GTTCTGTCTC | ACCCAGCCCC | TGTTGGGCAG | CCCCGCCGT | 300 |
| | GTCCGGGTGG | TACAGCTTCG | CGAGCTCGTG | GTACCGCTTC | TTTAGCTGCC | GTGCATCGAC | 360 |
| | GCCGGTCTTC | ACCAGTCCCA | GTACCTCGTA | GGGCGTCGGC | TGCTTGCCCT | GGGGCCACGA | 420 |
| | TAGCCCCCCC | TGCCACCCGG | CGACGGTGCT | AGCGCACCGC | ACCGTACTCC | GACCTGACGC | 480 |
| 10 | TGTAAGCGAG | ACCGCCAACG | TGCGCCAGTC | CTGAGCAGTG | CAGTCGGACG | CGACAACATA | 540 |
| | ACACTTAAGC | TCCTAGTTAA | CGCTTTGGCG | ATGGAGATCT | TGTCGGTGCA | TGCACATATC | 600 |
| | CAGGACGCGC | CTCCGCCCTC | GCTCGACTGC | TGGCCGTCCA | GGCTCCAGTT | GGCGCGCTTA | 660 |
| | GCCATATCGG | CGAAAAATA | AAGTCCTGCT | CGAGGCGCGA | TGA | | |

1447UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGCAG | ACGCTCCGGC | TGGCTGTTGG | AGATGCACTG | GCTCTTCGGC | GCCGAGTGGC | 60 |
| | GGCAACGCGC | CCGCCCGGCG | AGACGCGCCC | GCCGCGCGCG | CGTGCGGGTA | CATCCGCACC | 120 |
| | AGGTTCTGCA | GCTCAAACCT | CAAGGCCAGC | TTGTTTCTGT | TCTTCTTGCG | CTTCGGCTTG | 180 |
| 20 | TACTTGTAGC | CCGGGTACTT | CTTCGCGTGC | TCCTGCTKCT | CCAGTTCCGC | CTTGTCGTGC | 240 |
| | CACTCCTTCT | TCTCCTCCGC | CGTCAGTTTT | TTCCACTGGT | AGCTGATGAT | CTTGCTCACC | 300 |
| | TCCGAGTTGT | CCGGGATGTC | CTGGCCGAGC | TGCTTCCAGT | AGTCTGTGAG | CAGCTTCTGC | 360 |
| | TGGTGCGACC | GGAACAGGAT | GAACGCGTTG | CGCGGCCGCG | GGATGTGCTG | CTTCTGCTTG | 420 |
| | TAACCAGCGC | GCCCGCGCCG | GCTTCGCCCG | CCTCGCCGTC | CTCGTCCGCC | ATCCTGCTGC | 480 |
| | GCTGCCACTC | CTCGCCGCCG | GGGGGCTGGT | GCGAGAAAAA | CTTCTGTGCC | AGAGGCGCTG | 540 |
| | CCGCGCTGCC | GCTGGCTCGC | CGGCTCGTCC | GCCGCGGCTG | CGCGTTGCCT | GCGTTGGTCA | 600 |
| 25 | AAGGCAACAA | TTGCCCGGAT | CTCCCGCCGC | TGCTGGCGCT | GGTGTACGAT | CCGTGTGATG | 660 |
| | GTCAGCTTCT | GCTCCAATCA | CAGA | | | | |

1448RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCGCTAC | GTATACAACG | ACATATTGCT | ACGTATCGAA | TGTGATGTGA | CAACATGCAA | 60 |
| | GATTCTCAAC | AACAAGCGCA | AGTGGTTTAG | TGGTAAATC | CATCGTTGCC | ATCGATGGGC | 120 |
| | CCCCGGTTCC | ATTCCGGGCT | TGCGCATATT | TTTCACAACA | TGCACACACT | GTGTGGCTAT | 180 |
| | CGAGACGGAG | TCCACTACGA | GCATCGTCAT | TTTTGTCTAT | AATTTACAAG | CATATTGTAA | 240 |
| | CTATTGTGTC | ATTGATCTAA | ATGTCGAGTC | GATAGAATCC | TTCAGCTCCT | TGTAGCTAAT | 300 |
| 35 | GATAATGCAG | TTCACTCTCGT | CCGGTGTAC | CAAGATTATC | TTTTAGATA | CGCCGGTGTG | 360 |
| | GAGTTTGTTC | AGGCACCGGA | GTACGTGGGT | GAGGTCCATC | ACGGATTTGC | CGTTCTCGTC | 420 |
| | CACCTGGTGG | AACACGTAAT | CGTAGAACAG | AATGATGGGG | AACTTGTCCC | CCGCCTCAGA | 480 |
| | CCAGTGGATG | TCCATGCTGG | ATTCCATCCT | ACCAAAGATG | AAATTTAGCT | TGCACATGAG | 540 |
| | CCTGAAGAGC | CTGCCATTCT | CTAACTCCCG | CGACAAGTGC | TGCTCGATGT | TCTCCGAGTA | 600 |
| | GGTCTGCGAC | GAACGATTA | TGTCTAACAT | CTTGTGGCTG | AACAGGGCGG | TGAATCCCGC | 660 |
| 40 | AATCGTCTTC | TTCTCGTCCG | ACAAAAGGTA | CGCCAGCACC | CGCTTGAACA | GCGGGTGC | |

1448UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTCGCCA | GCGCTGGCAT | CCGCAGCGCC | GCAGGCGCCG | CGCGCGCGCG | CGCGGCCGCG | 60 |
| 45 | GCCACTGCGC | CACAATGCTG | TCCCATAGCC | CTCAACATCC | CAACTAGCTA | GTCACCTTGT | 120 |
| | GCAATCGGTC | TACCGATGGT | GTGTGCGGCG | GGGACAAAGC | CGTGGTGAAA | CGGACACTTT | 180 |
| | TCAAAATGGG | CTGATCTGCA | GCAGTACACG | ACCGATGAGC | TGCGCGCACG | GCGACAGCAG | 240 |
| | TCCGCGTTCC | GCGCCTGGCT | GCGCATAGGG | AACTTACGTA | TAGTATAGAA | GGGCCGTCTA | 300 |
| | CTTGCGGTAG | GCAGCGAGGA | TGTCGTCTGT | GTAGCGGAGG | TATTTGCCGT | TCCGCGAGTC | 360 |
| | CGGGATGCCT | CTCAGCGCCA | GTTTGGCGAA | GATGGTGGCC | GGGATCTGCG | GGTCCAGCAG | 420 |
| 50 | CTCGCTGTTC | TTCTTGAGCT | CCGTGAAGCG | GCGCAGTGCC | TCCGGCGCCA | TGCGATGGCC | 480 |
| | GAACTTGTTCG | CGGATGTGCT | TCTGCATCTG | CGTGTGACCC | ACGCCCCGGC | CCACGGCGAC | 540 |
| | CGCGCGCACCC | GCAGGCTCTT | CCGCGGCCAG | CGTCATCGCA | AAGTGGTTCA | GCGCGGGCTT | 600 |
| | CGACGAGCCG | TACGCGCCCC | ACGCGGACTG | TCTCCGAGTT | AGTAGCTGCC | CCTGCCCTGC | 660 |
| | TCTGCGTCTG | ACATACATAT | GCCTTCGTGC | TCCGCCCCGA | GCTCACGAAC | ACCACACTGC | 720 |

1449RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCCAAAGA | CCGCGTGCTC | GCACCTCCAC | ATGTCTCCAA | GCTGGACGCG | AACAACGATA | 60 |
| | TCTTACTGGC | GGTGAAAGAA | AGCCCGAATC | ACAAATGCCC | ACGATGCTGG | AAGCACGCAT | 120 |
| 5 | CTCCCGAGGC | CGACGCTCTA | TGTAATCGCT | GCGCCAGAGT | CCTCCAGTAA | GCCAAACCTG | 180 |
| | AATTTTTCAA | AAATTGAAAA | CTTCACCATG | GCTCACATGC | TGACTGCTTT | AATATCCTGT | 240 |
| | AAATACAACC | GGACTCTGCA | GGTCGATGCT | CCCTCACCTG | GGCCCCCAAC | TCTCCCTTGT | 300 |
| | ACCGGGTCGC | GGCGTCGCTG | CCTCATTCGG | CCTGCATCTC | GCTTCCAGAG | GCGGCGCTTC | 360 |
| | TGGGGTGCGC | GGCGCGCTGC | CGGCATTCAAT | CGCGCGCGCG | TACGGCAGCC | CACCGGGCGA | 420 |
| | CGCGAGGCAG | ACCCGCGCGT | GGACGTACCT | CGCGCGCTGC | CGGCTCTTCC | AGCGCCTTTA | 480 |
| 10 | CGCGCGCCCT | TGGTTGCGCG | CGTACATCGA | CCGTCTGCTG | GCCAAACGGGC | CGGTGCCAAC | 540 |
| | ACTCGCCGCC | TTCTGTCTGC | TCCATGAGGC | CACCGCCATC | GCTCCTCTGG | CGTCTCTGTG | 600 |
| | GTGGGGGGTC | TACAGCTGCG | ACGTGGTGGC | GCTGTTGCCG | CAGGGCCTGC | TTGACTACCT | 660 |
| | GGCCGAAGCA | CGCATCTGCG | CGTCRAGAGG | TTCGTGG | | | |

1449UP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGGCTCA | ATGGGTTGCT | GAAGCCGTGT | CTTTCGTAAG | ATGACCTCAA | CTTAAAGGCA | 60 |
| | GGCTCTCGAT | ATCTCGTTTC | TTTTTTTAAAC | AGGTGAGCTT | TGGAATAATT | TTGGTTCTCA | 120 |
| | GGCTCATCTCA | TCTACAATAG | TATGTCTAGC | ACGCCAGCAA | AGCTTGCGTA | ACCGCTCTAT | 180 |
| 20 | TCAATATGAG | TAAGCAGGTA | AATGATACTA | GCAAGAATGG | TCTTGACCTA | AAGACGCTGT | 240 |
| | TTGTCCGGAA | TATTCGGTTT | GATGCTACGG | ATGCAGAGCT | GACAGACTTC | TTCTCGCACT | 300 |
| | TTGCACCTAT | TAAGCATGCT | GTGATCGTAA | AAGATAATGC | GGGCTCGAGC | AGAGGGTTTG | 360 |
| | GGTTTGTGTC | GTTTGTCTGT | GAAAGTGATA | CACAGGCTGC | ATTGGACAAAG | GGACCGGAAA | 420 |
| | CACAGTTCAA | GGGCCGTCTT | CTGAGGGTGG | ATGTTGCCAA | AAGAAGAGAA | CGTTCGAAAA | 480 |
| | AAGGCGATGA | GGCCGAGGCA | CAGACCTCCG | CGGAGGACGC | GGAGAAGCCG | ACTACTGCTC | 540 |
| 25 | CCGAGGGTGA | CGAGGCGCTC | ATGCGGGGCA | AGCCCAAGCT | GATCATTAGG | AACATGCCGT | 600 |
| | GGTCTGTCGG | CGACCCGACC | AAGCTGAAAA | AGATCTTCCG | TAAGTTCCGA | GTGGTTGCGG | 660 |
| | AGGCTCCATC | CCGCGCAAAG | CGGATGGAAA | GCTGTGTGGG | TTGCATTTGT | CACGA | |

1450RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAATTCT | GTCTTGAAGT | AGGTATTAAAT | CAATGGGTCA | GGCTGGGTGG | AATTGCTTAC | 60 |
| | AAAAATACCA | ACCCAATCAT | CTTGTAAGTT | GGTGAGCGAT | ACGTAGACAA | TTTGCCTCAC | 120 |
| | ATCAATCTTA | TAATCGACAG | CATAGGTGAG | TTGATTATTA | ACCAGTGTCT | TTCCGATAAT | 180 |
| | GTAGAAATGG | GATGGCGTAA | GTATAAAGGT | TTTGGGTAGC | CTTTGGGCCG | ACCTACCAAA | 240 |
| | TTTTGAATGT | AGCGCTTGCC | CATTGATAGA | GAATACGACA | TGATCATTTA | TTCCAGCTTT | 300 |
| 35 | CCTTTTGACA | AACGCACCTT | TCGATTTTCA | CTCATTACAA | GAAAGGTAGT | CTCCAGGAA | 360 |
| | TGCCCTGTAA | CCTAACAAAG | ACATTGACAG | CCTCTCCTTT | CTGCCACCCA | ACAACCTGTT | 420 |
| | ACCGTAATCC | CGGAGTTGTT | CGAATTGGTT | CCCATGTTTC | ATCTCACGGA | TAGCACGCTG | 480 |
| | GATACGAATC | GCAGAATCGA | TACGCCGTTG | TAAAAACCGC | CGCCAGGCTC | TCTGAATGCG | 540 |
| | AGATGCCATA | TTATGCCAAT | ACTTATCCCT | CATGTTTTC | AAAGCAAACA | AGGTCTCAGG | 600 |
| | TGTTTTAATA | AATACCTTCG | TTACACCCAA | CTGATATTCA | GTCACAGGAA | TTGAAGTATC | 660 |
| 40 | TCTCAAAATT | AAATTGACAG | CATCTAAGGT | ATTACCTTGC | CATGT | | |

1450UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCAAGT | TGGAAGAGCG | AGTATCCATA | TGATTACTCG | CGCGAGACGC | CCGGCTCGCG | 60 |
| 45 | CATCAAGCCT | CAGACAGTTA | TCACTCGGCT | CTCCGAAATC | GCAAAACGCCA | CCGGAAGGA | 120 |
| | GGTCATCGTG | ACGACCGGTG | TAGGTACGCA | CCAAATGTGG | GCCGCCAGC | ATTGGACGTG | 180 |
| | GAAGAAACCA | CGCACATTTA | TCACATCAGG | CGGCTCGGT | ACCATGGGCT | TTGGTCTACC | 240 |
| | GGCGGCCATT | GGTGCCGAGG | TAGCCAAACC | CGATGCGATT | GTCATCGACA | TCGATGGCGA | 300 |
| | CGCCTCGCTC | AACATGACCT | TGATGGAGAT | GTCCAGCGCG | GTGCAGGCGG | GCGCCCAAGT | 360 |
| | AAAGATATTG | TTGTTGAACA | ACGAAGAGCA | GGGAATGGTC | ACTCAATGGC | AGTCTCTATT | 420 |
| 50 | CTACGAGCAT | CGTTATTCTC | ACACCCATCA | GCTAAATCCG | GACTTCGTCA | AGTTGGCTGA | 480 |
| | TGCAATGGGG | TTCAAAGCAA | TGCGCCTAGA | GGCGCAGTGG | GACATGGAGC | CCATGCTGCA | 540 |
| | GGAGTTTATT | AATTGCAAGG | AGCCCGTGT | ACTCGAAGTG | GCCGTCGAGA | AGAAGGTTCC | 600 |
| | CGTCTCTCCG | ATGGTCCCTG | CCGGTAAGGC | CTGCATGAGT | TTATCTACTT | CGACCCAGAG | 660 |
| | GTCAGCGACA | GCAAGCGGAG | CTTCGCAGCA | GGCGTACGG | | | |

1452RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAAATGT | GGCTCTACAA | GGGCGGAAGT | GCCAGAGAAT | ATTAATGAAT | CAGTTCCGCT | 60 |
| 5 | GACATATTTG | TATTGTACAG | GTATTCCACA | TTCTTTTGAG | TACGTATGTC | CGTCTAGGAA | 120 |
| | TGGCTGGCTT | AGTAAGGCTT | AATATTAAC | GAAAAGCGCA | GCAGTGTAAT | CCATCTAGTA | 180 |
| | ACTAACACAT | ATCCATTAGC | ACATGTTTCG | TTCACTACTA | CGTCATTCTT | ACGCCGTCCC | 240 |
| | TACTGTGAAT | TACACATGGT | CCTCGAGAAG | CCTCATAAGA | TTCTTCACTA | GCGATGAGAA | 300 |
| | GGCAGCTCCT | CCATCGCTTC | CGAGAGAAGA | GCAGAAAGAG | TTCGAACGGC | TTCAGAAGAT | 360 |
| | TGCACAGTCA | CAAGCTGCCA | TCGACGAGTA | CAACAGACAG | TTGAGAATG | ACCATACGAA | 420 |
| 10 | GGAGTCAGCG | AACCTCTCCA | TCCTCAAGAC | AGAAATAAGC | TCGTTCTCAC | CGGAATTCAG | 480 |
| | CAAGACGTTG | CCAGAGTTCC | AGGGCGACAA | GAATCCCGAG | ACAGGGGAGA | TTGGCGGGCC | 540 |
| | GCGCCAAGAC | CCACTGCGGT | ACGGGGACTA | CTCATACAAC | GGCCGCGTGA | CGGACTTCTG | 600 |
| | AGGTATAACT | TGTGTTTATA | TGTTTGCAGG | TTGGTTAAAT | ACATAGCTTG | CGCTCCAAC | 660 |
| | CTCTCGCAGC | TGCAGACAGG | TTGTCGGTGC | ACTCCGTGAT | GAATTTTCGAG | TCCAGCTTT | |

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1452UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCACCAAC | TCTACAGCAA | GAAATCCTAC | GCCCAGCAAA | AGCTGTCCTC | GATGTTCTTC | 60 |
| | TATTCTGTAA | ACAGTTTGTT | ACTTCTGGTC | GCTTGTAAT | GCATGCGCTA | TCATCTTTTC | 120 |
| 20 | ATCTGGAGCG | TTTTAGCCCC | GAAGTTGTGC | TACCTTCTGG | GCTGGAACAT | CCTCATCCAC | 180 |
| | TTTCTCACTG | AGACGGTGCT | TGAACCTTTC | TTGCTCATGG | TGGCGGGCTG | ACTGTCTCTA | 240 |
| | GTTCCACTTG | TATAATATTC | CTTCATCAGT | GAGAATCTCA | TAGTATTGTC | ATATATTAGA | 300 |
| | TATTATCTAG | GTCTATGTTT | AGAGAATAGG | TCTCTTCCGA | AAAAATTGGC | TACCACTGCC | 360 |
| | AATCATTACA | TGTCAGAACC | GACCATCTCC | AAGTGTCGAA | CCGTCCCCAC | TGCAAAATGCT | 420 |
| | CTCACTTAGA | TCCAGCTTCA | GACGCTTATT | TTCTGTTTCC | TGCAGGGTTT | ATGACCAGCA | 480 |
| | GGCGCAGAAG | GCCGTGTCTT | CCTGCCCGGC | TGGCACACCG | CTGAATCTGC | TTATAAAGAA | 540 |
| 25 | GGGCGGGAAG | GAGCCGTTGG | CTCTCGAAGA | TCCGACTACC | CGAGTGCTTA | TGGAAGGTGC | 600 |
| | TTGACCTGAG | GCGCAAGCCG | CAAAGCTGGC | AGAGGACCCA | TTAAAGCGCG | GAAGAAGGCT | 660 |
| | CTGCGGCGGA | TGAACAGAGA | ACACATCCAG | CAGCAGAACT | TCCTGGCGAA | GATGTGAA | |

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1453RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTTAATT | TAAATTTTA | ATTAACATTT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAAATA | 120 |
| 5 | AATAGAAAAC | CATAAGTTAA | TTGATTCTTA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| | ATTTTTATTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTTAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATPAA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTTATTTTA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TACCCTTTAA | 480 |
| 10 | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAGAA | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATAATAAAT | AATTAATCT | TTTTTATTAT | TATTTAAATT | 600 |
| | ATTATTAATT | AGTAAATTAT | ATTTATTTAT | TTTATTAACA | TAATTTTTTG | ATAATAATAT | 660 |
| | ATCATAATTA | AATGGTAATT | TATTAATAAT | TATCTTTAAT | GAATTTAATG | ATAAACCAT | 720 |
| | ATTA | | | | | | |

1453UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAAAATT | TCAACAATTT | CCATTTTCAAT | TAGTACTACC | ATCACCATGG | ACCAATTGTT | 60 |
| | ACATCATTTA | GTTTTATAGG | TTTACTATTA | ACTTTAGCTT | TTACTATACA | TGGTATTATT | 120 |
| | GGTAATATTT | ATCCTTTTAT | ATTATCTTTA | TTAGTAGTTT | TATTACTAAT | AACTTTATGA | 180 |
| 20 | TTTAGAGATA | TTGTAGCTGA | ACTTACTTAT | TTAGGTGATC | ATACTTTAGC | TGTAAGAAAA | 240 |
| | GGTATTAACT | TAGGTTTCTT | ATTATTTGTT | GTATCTGAAG | TATTAATTTT | TGCTTCTTTA | 300 |
| | TTTTGAGCTT | ACTTCCATTC | AGCTATAAGT | CCTGATATTC | TATTAGGTAA | TGTTTGACCA | 360 |
| | CCAGTAGGTA | TTGAAGCAGT | TCAACCAACA | GAATTACCAT | TATTAAATAC | TATTATTTTA | 420 |
| | TTAGCATCAG | GTCTAACTAT | TACATATAGT | CATCATGGTT | TAATTGAAGG | TAATAGAAAA | 480 |
| | CATGCTTTAT | CAGGTTTACT | TATTACTTTC | TGATTAATTG | TTACATTTGT | ATTATGTCAA | 540 |
| 25 | TATATTGAAT | ATAGTAATAC | ATCATTTCAC | ATTACAGATG | GTATTTATGG | TTCAGTATTT | 600 |
| | TTTGCTGGTA | CTGGTTTACA | TTTCTTACAT | ATGGTTATGT | TACTAATTAT | GTTAGGTATT | 660 |
| | AATTATTGAA | GAATAAGAAA | TTATCATTTA | ACATCAACAC | TCATGTAGGA | TATGAGACTA | 720 |
| | CTACTATTTA | TT | | | | | |

1454RP

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|----|-------------|-------------|-------------|------------|-------------|-------------|-----|
| | GATCATGCCT | CACCGGCGTG | GAACATGCAG | GTGAGGCGTA | TGTACCCCAT | GTTGCCTTAT | 60 |
| | TTTTTTCACCT | GAAGCGGATT | GGCTCTTGTT | TATACAGACT | TTTCTGCATC | CCTTGGGGCC | 120 |
| | CAGAGCTAGG | GCCTAGAAATC | CGTGTCGTAA | GCGTTGGGCA | CTGATTCAAC | ACGAGCACAA | 180 |
| | TTCCAGTGCT | GCTCGTAGAA | ACGAGGCCCC | TGAAGTATAT | GGTGATATCC | ACATTGCCGG | 240 |
| 35 | AGTATAGTTT | TCTGTGGGGG | CGACTTTCATG | CCATGTGCAT | CTCCGGCTTA | CTCCACAGCC | 300 |
| | GCACACGCTG | CAATTGTTTTG | GGAACATCAT | GTGAAATACT | GGTATAGAGC | GCATTTTCATA | 360 |
| | GGGGTGCCAG | CAGCTGTAAT | AGGGCGGCAT | ACCCCGCTCT | ATTTCAATGTG | TTTATGTGCT | 420 |
| | AGTTTAGAGG | TATTTTGTAG | GTGCATGGGT | TATGGCTTAT | TTTGCATATG | GAGATCTCAT | 480 |
| | TCGCTCGTAA | CGTATATAAC | TGAGGTAGCC | GTAACCTTGC | ACTGGTTCCC | ATTGCCAGAG | 540 |
| | CGAAGCTACA | ATAGCACCAT | CTGGCTGCAA | GTTGTGAACA | ATGCATTGGA | ATCGCATACT | 600 |
| 40 | CTTTTGGGGC | TGTGCGCTTT | TGCTGCAACA | ATTAACAAAT | GCCTTTGATG | AAGGAGTGCT | 660 |
| | AAGGAAATGT | TATGAATCTG | GTGTATGCCA | CCGGAACAGG | CATTACGGAG | AGAA | |

1454UP

| | | | | | | | |
|----|--------------|-------------|------------|------------|------------|------------|-----|
| | GATCAAGCGC | TGTATGGTTC | CCGGAGCGCC | AGTAACAGCG | GTCCTGTACG | ATTTCAACGA | 60 |
| | TTCCAACATG | GACGATGATG | GCTCCAAAGT | TATGTTCCCG | ACCACGCTTG | AACTCAAAAA | 120 |
| | GGTTTTTCAG | GCTATTCGTT | TTGAGGCCAT | CAAACGGGGG | CTGCAAGTGT | TTCCCATTAG | 180 |
| | GAATATTGCT | CCTATCTTCC | GACAGGTCGG | ATTCAAGAAC | GTAAAAATA | CCGTTCTGAC | 240 |
| | ATTCAAGCGC | GGCGATTTCCG | TGAATGAAAT | GGGGTTCTGT | AACGAGCTAC | TTGCAACGTT | 300 |
| | TCACTACGAT | TTTCTAGTGC | GAACCTTTTT | AACTGATCGT | AGTAAGTATC | CAGTTGGAAC | 360 |
| 50 | TGACCCACAG | ACACTGCCGA | GGAGGTACAT | TGATGAGCAC | ATGGGCCAAA | TAGATGACAA | 420 |
| | TGCAGGATGC | TTGCGTCTTA | TTGCAATCAC | GGCGGAAAAA | CCAGAGTAGG | TTTCCACCGT | 480 |
| | TGCTATTGCT | ACCCGCGGCA | ATTCTCCCGG | TCATTATATA | TGTTAGCAGG | TGTCAATACC | 540 |
| | TCCTTACAAAC | CTAATATTTT | AAAACCTAAT | ATCTTCTGCT | CCTTAGAAGG | AGCCACTTCC | 600 |
| | TTTATATGCTTA | ATATTTTACCC | CTAGTTCTAT | CTAATAATTT | TATAATTTTG | ATAAATCTTG | 660 |

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|----|------------|------------|------------|------------|------------|------------|-----|
| 55 | ACGTACATCT | TATCACTAAG | GAAGATCTCA | TCACAAACTC | CGCAAAGTGT | TTCATATATA | 720 |
|----|------------|------------|------------|------------|------------|------------|-----|

1455RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| 5 | GATCTCTTCG | ACATAGTGTC | TTAATAGGCC | TGCTGAGGAC | TTCAGTGAGA | AAGCTTCAAT | 60 |
| | AGCGGGCAAT | GGCCCATCTC | ATCAACACTT | AAAAATTTTC | GTGGCAAAAG | AAACAACACT | 120 |
| | GGAAATCACGT | GACCACACAA | AATCAGCAT | TACTGTGTA | AGGGGAGCAG | GCTACGACGA | 180 |
| | CTCTTCTTCG | CATGGTAACT | CGCTGCTGTC | CACCTGCGCG | TTGCGAGCCT | TCTTTGCTGA | 240 |
| | CGCTCGCTCT | TTCTCTCTCT | CTAACAGCCT | CTCCCGGTTA | GCTGTGATGT | AGTGGATGAA | 300 |
| | GAAGTCGCCA | TCCTTGCTGC | GTTTCGCATC | ACGCAGGAGC | GTCTCGACAT | CGTCGTATAT | 360 |
| | ATCAATGCGT | CGCTTTTCGCA | GTGGGTTTAG | CAGCTTGTTA | TCACGCCCTG | CACATTGCAA | 420 |
| 10 | CTTCGCGATG | GCTTTGGTCG | ACTTGAACGA | CACCTCGCCC | GGTTTCATAT | ATCCAGATTT | 480 |
| | GCGCAGGTTG | TGCCAGGGCG | TGCTCACAAT | GCTACATTGT | GCCTGCTTGT | TCCCTGTAC | 540 |
| | AGACTCTGAC | TTGCACAACT | GCAGGCAGGC | ATGCAGCACA | TCCCGCGGCA | CGTCGCTGGA | 600 |
| | GCTCTGCTGC | TTTGCATGTA | ACTTGAGATA | GACATGTGCG | CTGGCATACT | TGTCTACGTT | 660 |
| | GGAACCAGAA | GTAGTTTAAT | CCCGGTACCC | GTGCTTGAAC | AAAAGGTCGT | TC | |

15

1455UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| 20 | GATCCCATCA | CATGAAATGT | CTAGAACTCC | CTGCATGACG | CGAATGAGGC | CAAGAAATGTC | 60 |
| | TGGTGGGCTT | GGCTAACCGA | TGTTTCGCAAC | TGCAACAAGG | GGTACCTGGT | GTTTATAGCC | 120 |
| | GTATGTCGTC | ATCCGGGAT | CGTGCAACAG | GAGAGAAGAA | CGGGACCACA | AGGAAACGCG | 180 |
| | GTAAAGCATC | TAGAATCAGC | AACCCTAGAG | AACGTTTGTT | CGTCGTTGGC | GCAAGAGCAC | 240 |
| | GGAGCTAGG | GGCTGGGAGT | TGCGGTGGCT | ATTCAATGCT | GGGCACGCCG | GGTATATAAG | 300 |
| | TAGGGTATGC | GTCCGTTGAA | CAGAATGGAT | CCGTCTCAGA | ACAATACCAA | AATCGCATTT | 360 |
| | GGAAAAACAA | CCACTAATAT | GAAGTACACC | TCCGCTATTG | TACTCGCTCA | AGTCGCTTTT | 420 |
| | GTTGCAGCAC | AGTCATCCTC | GGGGTCTGTT | ACCGGCAGCG | CTGCCCCCGC | TCCGGGTGCG | 480 |
| | GGGTCGGGCG | CAAGCATTTT | TAGCACCAG | ACAGTCACCG | CCTCAGGTTT | TGGACCAGGC | 540 |
| 25 | GCGACGTCCG | GTGCTAGCTC | CGGTGCAGCA | GGCGGGGCGG | CTGGCGGGGC | CGCAGGTGGC | 600 |
| | GCCGCATGTG | GCGCCGCGAG | TGGCGCCGCC | GGTTCTAACT | CCGGCAACTC | TGGCTCCAAT | 660 |
| | GGATCTGGCT | CCCGGCCAGA | ACACTCTGGA | ACAGAACACT | CCGGCCAGCA | ACACTCTGGA | 720 |

30

1456RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 35 | GATCCACGCC | GCGCTGCTGA | CCAACGTCGT | CATCATCGGC | GGGACCTCCC | TGCTCCAGGG | 60 |
| | CCTGGAGCAG | CGCCTCGTCA | ACGACCTCAG | CCTGCAGTTC | CCGCAGTACA | AGCTCTCTAC | 120 |
| | CTACGCCACG | CCCGCCACG | TCGACCGCCA | GCTGCAGAGC | TGGCAGGGCG | GCGTCAACAT | 180 |
| | GTGCCACCTC | CCGGACTGGA | AGCTCGGCTC | CTGGGTCAAC | AAGCAGGAGT | ACCTGGAGTC | 240 |
| | CCTCGACAAG | TAGCTGTGTA | GTATGTAACC | GTATGCCGCG | ACCCTGCGGT | TTCTTTCCCG | 300 |
| | CTCCCCCACC | CCCATGAGC | CCCCGCGCG | CTTCGCGCG | TCCCAACGCG | TGGCGCCCGC | 360 |
| | CGCGCCCGCC | CGCGACACCG | TCGAGCTCTA | CCTGGACTAC | TGCTGCCCCC | TCTCGCGCGC | 420 |
| | CCTCTTCCTC | GCCTGGCAG | ACGCCCTTTT | CCCCCGCGCG | CGCGCCGACT | CGCGCTTCCA | 480 |
| | GATCGTCTTC | AACCAAGTCA | TCCAGCCCTG | GCACCCCGCC | TCCCAGTACA | TGCACGAGGC | 540 |
| | CGCCCTCGCC | GTGCCCCGCC | TCGACCCCGC | CGCCTTCTCG | CCCTTCTCGC | GCGAGCTCTT | 600 |
| 40 | CCTCCACCAG | GACCGCTGGT | TCGACACGCG | CACCGCCGAC | AAGTCGCGCC | ACGCGGTGTA | 660 |
| | CCGCAAGCTC | CGGACTTCGC | GCGCGACGCC | GCCGCG | | | |

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1456UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 50 | GATCTGGAAT | ATTACCGGCA | CAAACCTGGC | GCTGTGCTTC | CACACCAGCC | TCCGGTACCG | 60 |
| | CTTCACGGCC | ACCAGCTCCT | GCAGCAAGCG | AATGCACACG | TATGCCAGCT | CCATGCGCTC | 120 |
| | CAGATTAGTC | AGAACCCTGA | GGTAGTTGGG | GTTGACACCC | AGCGCCTCCA | CCAGCTCCTC | 180 |
| | GCTCTGAGC | CCCTCCTGGA | TCAGCAGCGA | GACAACGTTG | AAGCACGACA | GCAGCACGAA | 240 |
| | CTGGTCTGTC | GCCGCGCTGT | CCGTCACTGT | CGACTCGTAC | AGCTTGCGCA | CAAGCTCCGG | 300 |
| | GCCCTTCTTG | AAGTACCGCA | GCACCTCGTG | CACGTACTTG | TGCTCGTGA | ACAGCTCCGA | 360 |
| | CAGCAGGTTT | AGCACCGCCC | GCTTCGCATC | CAGGTTGTTT | GACGTGCGCA | GCAGGTGCAC | 420 |
| | CAGCGCCTGC | ACGCCCTGTT | CCAGCGGCG | ATCCAGCGCG | CCGCGCGCG | CGTGTTTCAA | 480 |
| | CAACGTCGAC | TCGAGCTTCT | TGGCAATCCC | CGCGTCAAAC | TCGCTCAGCT | CGGGOGAACG | 540 |
| | CACCAGCGCG | TCCACGCGCA | CATGCCCTGA | GCTGATCGTA | TTGCGGATAT | CGTTGAAGTG | 600 |
| | CGTGCTATCA | AGCAGAATCT | TTTGAACCCC | CTGAGCCACG | GGCATCGTCA | CAGCTAAGAT | 660 |
| 55 | CTACGCTTTC | ACGCGACCGT | ACTGCCCACT | TTGAAACCCG | TGGGACTAGT | CAATATCTGG | 720 |

CGTGGTCTGG CGGACTCCC

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1457RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCAATATC | GGGACGAAAT | CTGTTGTATC | TACTACCGGC | ACGGCGACTG | CGCCCAGCGC | 60 |
| | ACCAGGATCT | CAGGCTTCGT | CAGCGAGTCC | GGATTTCGTCA | GCTAAACAAA | AGAAAGATTC | 120 |
| 5 | ATCTCCACTA | CCTCTTGACT | TACCTCCACC | GAAGGATTTT | AGCAAAGAAA | TCGAGGAGAT | 180 |
| | TATAGAACAC | GATTTGACTA | AATTGGCCTT | TCAGAAATCCT | CTTTTTAAAG | ATGAACTTCC | 240 |
| | ATATTGGTTA | CAGGCCAAGA | GGCCATTGAT | CCAACCGTAC | AGCACTATGT | CTGAAAGAAT | 300 |
| | GTTGAAACAG | CTGGAATCCT | CATTACTTAA | CTGCCCAGAT | TCGCTTGACG | CTGACACACC | 360 |
| | ACATCTCTAT | CAACACCCGC | TCTCTTTACC | GCATCCCAAC | TCCATTTTCT | TCCCTAGTGA | 420 |
| | ACCGATCAGG | TTCGTGGCTG | CTGGCTGGAA | TAACGATAAT | ACGTCCACTA | AAGATATCTA | 480 |
| 10 | TGGAAAAACT | TCTATGGTTC | AGATAATGAC | CAAGTTCGAT | TTGGATACCC | TGTTTTTTAT | 540 |
| | CTTTTATCAT | TATCAGGGAA | CGTACGACCA | ATTCTAGCT | GCCAGGGGAA | CTAATCATCC | 600 |
| | GTGGGTGGAT | ATTTAATAGA | GTCAATCGGT | GCTGGTTTTA | CAAAGAAGTT | GAAAAGCTGC | 660 |
| | CCCCTGGAAT | GGATCAAAAA | GAAGAGGT | | | | |

1457UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCGAGGAC | TTGAAGCAGT | TCCGGCAGGT | CGGGTCCAAG | ACCCCTGGGC | ACCCCTGAGTA | 60 |
| | CGAGCTTCCC | GGCGTGGAGG | TGACCACCGG | CCCTCTAGGC | CAGGGTATCT | CCAACGCCGT | 120 |
| | TGGCTTGGCG | ATCGCGCAGG | CGAACTTGGC | TGCCACTTAC | AACAAGCCGG | GTTACGAGTT | 180 |
| 20 | GTCGGACAAC | TATACGTACG | TGTTCTTGGG | CGACGGCTGT | TTACAGGAGG | GTGTGTCCCT | 240 |
| | CGAGGCTTCC | TCGCTTGACG | GCCATCTAAA | GTTGGGCAAT | TTGATTGCGT | TCTATGACGA | 300 |
| | CAACAAGATC | ACCATCGATG | GCCACACTGA | GGTGTCTTTC | GACGAGGATG | TCTTGAAGAG | 360 |
| | ATACGAAGCA | TACGGGTGGG | AGGTGTTGAA | CGTTGCCAAC | GGTGACGAGA | ACTAGAAGAC | 420 |
| | ATTGCCAGTG | CCTTGGAGCA | GGCCAAGAAG | AACAAGGACA | AGCCAACCTT | GATCAAGTTG | 480 |
| | ACGACCACTA | TTGGGTTTGG | CTCCTTGAAT | GCGGGCTCCC | ACACTGTGCA | CGGCGCGCCA | 540 |
| 25 | TTGAAGCGGA | TGATGTCAAA | CAGTTGAAGA | CGAAGTTGGG | CTTTAACCCT | GATGAGTCTT | 600 |
| | TCATTGTGCC | TCAGGAGGTT | TATGACCTCT | ACCACAACAG | CACTATCCAG | CCAGGTGCCG | 660 |
| | AGTCCGAAAA | GGAGTGGAAAC | GCTCTACTCG | AGAAGTATGC | GGGTGAGTAC | C | |

1458RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGCAGT | AGCTGATTGT | TCGGGTGGCC | AGGCGAATAT | TGCTGGAAGC | GGTTCAGGCG | 60 |
| | CGTATATTTG | CTCTGCGGAC | CGCCAAAGTA | CCCGCCGAGG | TTACTCTTGC | TGGTCGTACT | 120 |
| | AGAGAAGTTG | CGCACTGCCC | TAGCAAGTGC | GGTGCTAGGT | ACGGGATTTA | GCTTCGCCAG | 180 |
| | TAATGGTGTG | AAGACGTTGC | GAAATGGCAC | AGACGCCTGT | ACTGGTCCGA | CTTGCAAGTG | 240 |
| | GATAGCGTTG | CTAAGAAAGA | AACACCGCCC | ATACGAGCGC | GTGAACGTAG | ATAAGCTCAT | 300 |
| 35 | GGTCAGCAAT | CAACAAGCCT | AATGATGATC | TTCTTTACAA | AATGAGGTTT | TAAAGCGACG | 360 |
| | TTAAAAAGGG | ATGCCCAACG | CTATGTTTGA | CACCTATGGA | ATATCCGTAT | GAATGACTGT | 420 |
| | GTATCATTA | CGACGGTACT | TCCTTACAGG | GCAATGGCAG | GATGGTAAAC | CCGAGTAATG | 480 |
| | TCCAATAATC | ATCATATATA | CTCTAGTTAT | ACGCTATGAG | GGGTCATTTG | ATGTATTGTT | 540 |
| | CGTTTCGCCTA | TCGGCTATGC | TTCAAATTCC | ATGAGGTTGG | GCAGCTCGCC | ATTCTGTACT | 600 |
| 40 | GCGGGTGGCA | TGTTCACTTT | CTCTAGTCTC | TTTTGTGGGC | GGTTGTCTTC | GTCTTGGTCC | 660 |
| | ATGTCAAGGT | CCAAGAGATC | ACAGAAAA | | | | |

1458UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGTTGC | ACCTGCTATT | TCAGGCAGAT | TTGTGCTGTC | AGCAGCGCAT | GGCCATACTA | 60 |
| 45 | TCTGCTTTGG | CGCTCGCTGC | GCGCGAGTTG | CGGGGGCTGG | AAGACAAATA | CGTGCTCAAA | 120 |
| | CCCGTCTTTG | ATTTCCCCAC | ACGCCGCCTG | CCCAGAAATG | ACGCACCATC | AAGAGCCCTT | 180 |
| | GAAAGCCGCG | AATCCGGTAC | AAGCTCCGAG | GGGACCATCT | CTGCACACCA | CACCGTCTGG | 240 |
| | CGGTTCGCGCA | AACCTTGACTC | AGCGCCAGCA | CCAGAACGTC | CGAACGCCTT | TCGGAAGCAT | 300 |
| | GCACCTGCGT | TTTTCTTTCCC | GCTGGCGCAC | GCGTGCTGTA | ATGGCATCGA | CCTGGGCACT | 360 |
| 50 | TTTGACGCCC | TGTTCAAAAA | GCACTACCTA | AGCACCTGTC | GCCTTATTCT | TGCAGCCGCC | 420 |
| | AACCCGCATG | CAGAAPTTGA | CCGGATGTCC | GAACCTCATG | GCTACGTTTT | GCAGGACGCT | 480 |
| | GAGGCGCACG | ATATCAGCAT | TGAGTAGCCC | GTCGCGCATG | TGTCAGCCCA | TCTGTGGACA | 540 |
| | ACTCCTGCTT | GCAAACTGTA | TCCCGACCAC | TACCATGCAT | TAGTATGAGA | TCTATAGAGC | 600 |
| | GCCAATTGCA | CGCCTAGAGA | GATGTGAACC | TCGCAATGCA | TCTCTTGGGA | GTCTCTGTGG | 660 |
| 55 | CCGSCAGTAT | CTGCTAGTAC | ATACTCTTTG | TAACTCTACA | GAGATGTGAA | GTCTTGTTAC | 720 |
| | CCGG | | | | | | |

1459RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCATGCTG | GGGCATATCT | GAATGCTCTT | GAACAACGGA | CTAGATTAAAT | GGAGCCTTGC | 60 |
| | ACTCAGAGGC | TTGGGCAGGA | TGCAGCTTAT | GCGGGAGCGG | CTGTTGGAGC | TTTACAATAC | 120 |
| 5 | CAAGCAATAT | GTGGTGCTGC | CCCCAGATGA | GACAGTAAAA | CTGCAGCGAG | AGGTGACGGC | 180 |
| | GAGCCTGAAC | TCAGCAGATC | CAGGACTCAA | CGACGTTGAC | CGCATGGCCC | TAATGGAGAT | 240 |
| | GAACTTCTAT | TTGTTGGTGT | ACATTGGCGA | AGAAATAGAA | GCAGACGTGC | TCTACCGCAC | 300 |
| | ACTTGTGGA | CGTATAGGTG | AGAACTCGCC | CCGGATGCAC | CTCATGAAGG | CTACGTTACT | 360 |
| | GCAGGTTACA | GAAGGTGATC | CCGCTGCCGC | GAAGTACCTG | AAGAACCTGC | TTGAAAAGCA | 420 |
| | GCTTGAATAC | GATACAGATT | CCGTGGATTA | CCTGCAGGTG | GGCAAGAAGC | TAATTGCGCT | 480 |
| 10 | GGAACGGCCC | GCGTTGTCCA | CCGAGCTGTG | GATGAAAAAG | CTGCTGTCCG | CTGCTAGAGA | 540 |
| | AGTTTCCACT | GGACGCCGAA | CTATGGTGG | | | | |

1459UP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| 15 | GATCACGCTGC | CTGCGACATG | GCGACTTCAT | CCACTGGCGC | CCAGCTACGT | GGTATATGAC | 60 |
| | ATTATGGCCG | AGAGGTTAAG | GCGTGAGACT | CGAACTAAAT | TGAGGGATCT | CTTGGGCTCT | 120 |
| | GCCCGCGCAG | GTTCGAATCC | TGCTGATGTC | GTTATTTTTT | GCTTGCGCGG | CCTACGGGGG | 180 |
| | GCTGTATTTT | GCTTGTGTGT | ATTTAGATAA | ACGAGATAGC | TAAACTATGG | GTAGAACTCG | 240 |
| | CGGTACTTCC | CGTAGTAGTA | GGCTGTGCCG | AAGCCGCCGA | GGGCGGTGAG | CACCAGCGGG | 300 |
| | ACGGGTMTGG | CGAAACGCGA | TGGCACGCCCT | CTGATGAGGC | CGGTCAACAG | CATCACGGAG | 360 |
| 20 | CTCGCGCCAA | GGGCGAGCTC | GAGGCCGCCC | TCTGCGTTCT | TCCGGAGCAA | GTACCCCTGCT | 420 |
| | ACAGCGTAGG | TGCTACCAA | AACGAGACCT | GCAGCCAGCG | AGGGCACAGA | CCCTTTACGC | 480 |
| | CAGTAGCCCA | TCGAGCCACC | GATGACGGTG | AGCGCGGCGA | GAGTGAAAGA | GGGATGTTCC | 540 |
| | CTTGCGGTGG | TGGTGGGTGG | TGCTGTGGGG | AA | | | |

1460RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGGGTG | GAGACACGAA | AGTAGACAGA | CACGGACGGC | TGTTGGGTGG | AAGGAACTAC | 60 |
| | CTCGTGGATA | CATTCCAGCT | GCCCCAAAAG | ACACATAATT | TCTATGTGCT | TGTCGACGAG | 120 |
| 30 | CTGATAGAGA | TTTGTGATTT | CGAGGGGAGC | GGCTCTGACT | TTTTGCACCT | GCATAATCAG | 180 |
| | CTGTACCCGC | TGGAGCTCAA | AGACAACGAG | CGGGCCTTGC | TTGCAGACGC | TGGGTGATC | 240 |
| | AAAGGCGAGC | TGCGCTCCCC | ATACTACGTT | ACTGCACCTC | CTTCATACAT | CATTTTGGT | 300 |
| | GCTGCTATTG | TGGCGAGCGG | CTGTAGGATA | ATAGATGACT | ACTGGGAGCA | GCCCTTAAAG | 360 |
| | GAGCAGGGAT | TCACCATGCA | CCACCGTGTA | TTCTCTCTGA | ACGGCACGCA | ACTTTTATTG | 420 |
| | CTACGCCTGC | TGAAACCCCC | GCGTCCAGAA | TCCATCAGC | AGGGTGAGAA | GCTGGATACC | 480 |
| | AAGTGGCTAC | AGAAAGTGGG | GGATCCATAC | CCAACGATCC | AGGAACAACC | AAATGCTGAA | 540 |
| 35 | GCACGGCGGG | AATACGCTAG | AGAACACGCC | AGAGGTGAGC | ACATAACGAT | GATTGTTCCA | 600 |
| | GGTCAAAAGTA | TTAGCGGCAG | TATAGAACTG | AGCCTAAATT | ATAAACTTCC | TAAGTACCAC | 660 |
| | TACAAAAACT | CATTTGCTAA | TGGGTGTA | | | | |

1460UP

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|----|-------------|-------------|------------|-------------|------------|------------|-----|
| 40 | GATCCAACAA | TTCCCGCAGC | GCCGCTCCAG | CCGTGCTCTC | CGTCGCATCA | AATGAGTCCA | 60 |
| | CGCCTGTCTC | AATCCCGCAC | AGCTGCCGTC | CATGCGCCAC | CTCGAACTGC | ATCCGCGACG | 120 |
| | CAAAACAGCTG | GATAAACAGC | CCGTTCTGCT | CGCACCCCCG | CCGCAGCTGT | CCAAAGAGCG | 180 |
| | CCTCCGCACC | AGCTGCTATA | TCATCGCCCC | AGAAACTCTC | TACGAATGCC | CCCATCGCCG | 240 |
| 45 | TGTACCTCGT | CGTAGTTGTG | CATGTCGCTG | CCTCTTCCGG | CTGAATTTTG | ACAGTCTGGC | 300 |
| | CCCCACCCC | AGCTCCGGAA | CGCTACGTAA | TACAACACAC | AACCAAATGC | CCTACCCGAA | 360 |
| | GGTCGCAATC | GTCTCTGCA | CCGGCTGCCG | CTGGGGCTTG | CGCGCAAGCT | GGTATGCTCA | 420 |
| | AGAGTTGCTA | CAGACTTTTCG | GCGACTCCCT | AGCCGAGATT | GCCCTCGTAC | CGGGTCCGTC | 480 |
| | CGGTCAATTTC | CAAGTCTCTT | GTTACGCAAG | CCAAGAACAA | GAGGCCACGG | GACAGCGGCA | 540 |
| | ACACCATCTG | GGATCGGGCG | CGCGACAATG | GTTTTCTCTGA | TAGTAAATAT | CTGAAGCAGG | 600 |
| 50 | CTGTCAAGCC | ACTCTTTTTG | CAGACAGCGG | AACCGCCTGG | GCGCCACAT | | |

1461RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCAAAACCA | CCACGGCACA | TCATCATAGT | TGATTAAATC | AATTAGGTAA | GGCAACCATA | 60 |
| | GTTGCAGACT | TTGTTTCTGT | ACCATTTTCT | TGGGATTAAA | GAAGTAGGGA | GTCACGAGGA | 120 |
| 5 | AATGCACCGC | ACATGCTTTG | AGATTGGTGT | TTTGGGATTT | TAGAAGGCCA | GTAACGAAGA | 180 |
| | CGGTGAACGA | GCTGTCCAGC | CATAGATTAT | TTTTAACTGG | ATGAACCTTG | TAGCACTCGA | 240 |
| | TGTATAGGAC | AATCGCCAAC | CAGAGCAATG | TCTCGTGCAA | CGGGTTCTGG | ATGACAAAGCG | 300 |
| | CACGCGGGGT | GCTCGTGAAT | GGTAGGAGTT | GGTTGCTTCC | TATCCACCGG | TTGCTAAATG | 360 |
| | CCATGTACTC | TTGGTCCTTG | GGGTTCCGGC | CGACCGTGAC | CTTTAAATG | TATTTGAGGT | 420 |
| | CCAACGGGTG | ACCATAGCGG | TCCACTAGTG | ATAGCATGAG | TGCCTCTAAC | GGCAGAAGAA | 480 |
| 10 | GCCCTTGCGG | AAGCGAAACC | ACCTCCCGGC | ATTTGAGCAC | CGCAGACATT | AACTCCAAAA | 540 |
| | GCGTGTGGC | CCAGGAGATC | TCTGCTCGGG | AGTCATCTGC | TTCTCATTCA | TCCCCGAGGA | 600 |
| | AGTGATCAA | AAGCCCGGGC | AAACCCACGG | GCACAGCCCC | CCGCACATCC | GCGTCCCCAT | 660 |
| | TACAGTAGTC | TATCCACAG | TTGTTCAA | | | | |

1461UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCGCAG | TTTAAACTTA | AAGTTGATAG | AGTTCCCGTC | GTGCTCTCTG | GATACAATAG | 60 |
| | AGGCCACCGA | GTCGACGTGG | CCCTGCACGT | AGTGCCCGCC | GTAGCGCCTG | TCGTCCGAGA | 120 |
| | TGGCCCTTTC | TAGGTTGATC | TTGGAGCCAG | CTTTCCAGCT | GCTGACTTCC | GTCCGATAAA | 180 |
| 20 | CTGTTTCTGG | TGCGATCCCG | ACCTTGAAGC | TATCGGCCGT | GAACCTCCGC | ACCGTCAGGC | 240 |
| | AGATAACCAT | GCATGCAATC | GAGTCACCGA | TGTGGCAATC | CGCCAGTATC | GGAGCCGACT | 300 |
| | CCTTGATAAG | GACTGACACA | CCGTTGCCGC | CTGCCTCGCT | GGCATCGTTC | TCCAAGTACT | 360 |
| | CAGCAACAGT | GCCAATGTGT | TCCACTATAC | CGGTAAACAT | CCTATCAACT | TCTATGGGCG | 420 |
| | ATATAGGCTT | CGGTATGCCA | TCTATGCATC | TTCTTTTCTG | CTACCGCGAG | CTTTTAAAC | 480 |
| | TCGTAAAGACA | TGCATAAGGA | AATGGCGGTT | CGCCATGTAG | CTGACTAATA | AAACTAGAAG | 540 |
| | ATACGACTAA | CTATCTGATT | ATACTTTAGG | ACTATCTCTC | CTTGCGCTGG | TCACAGAAAC | 600 |
| 25 | ATCGTTGAGC | AAGTCGCGTC | TATCGGGAAA | ATCACTTGGT | TCCTTTGTCTG | TAGAGCTAAC | 660 |
| | TGCTTGAGAA | GCTGGAAAGC | GCTCTTTTAA | AGTCTACTTC | GAATGGTGGT | GTACGTCTGG | 720 |
| | GTGCTGGC | | | | | | |

1462RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTAATT | TAAAATTTTA | ATTAACATTT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCATA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| | ATTTTTATTA | TTTAATTGAT | TATTATCTAT | TTAACATATA | ACATTTTAAA | ATGTTATAAA | 240 |
| 35 | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTAAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATTTA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTTATTTTA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TACCCTTTAA | 480 |
| | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAAGAA | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATATAAATT | AATTAACITT | TTTTATTATT | ATTTAAATTA | 600 |
| 40 | TTATTAATTA | GTAAATTATA | TTTATTTATT | TTATTAACAT | AAATTTTGGG | ATAATAATAT | 660 |
| | ATCATTATTA | AATGGTAATT | TATTAATAAT | TATCTTAATG | A | | |

1462UP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| 45 | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATGAGTTTAA | TATTAAATTC | ACCACCTCTT | ATTCAATTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCTTAAAAATA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAATTG | 240 |
| | GTAAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| | ATCATTAATA | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAAATGCTGA | AAGCATTAGG | 360 |
| 50 | GGTGTGTACC | TTAGCTCTCT | AATTAAAGTT | ATAAAATTAT | CTTAACTAAT | AAAAATAATT | 420 |
| | AATTAATAAA | ATAAATAATT | AATTAAATTT | AAAAATGTTA | AAAAAAGAAA | TAAATAATAT | 480 |
| | GTTATATTTA | AATAGATCAA | AATTTCAACA | ATTTCCATTT | CATTTAGTAC | TACCATCACC | 540 |
| | ATGACCAATT | GTTACATCAT | TTAGTTTATT | AGGTTTACTA | TTAACTTTAG | CTTTTACTAT | 600 |
| | ACATGGTATT | ATTGGTAATA | TTTATCCTTT | ATTATTATCT | TTATTAGTAG | TTTATTACT | 660 |
| 55 | AATAACTTTA | TGATTTAGAG | ATATGGTAGC | TGAACCTTACT | TATTTAGGTG | ATCATACTTT | 720 |

AGCTGTAA

1463RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCCCTGAG | TCTGCTACCA | AGGAGGTCGA | GGAGGAGGAC | ATCGATATCG | AGCAATTGAA | 60 |
| | GCAGGAGATG | AAAGGCAACA | AGGAGGCCTC | TGCTTTGTAA | GCTTGCTGTT | TGCCGCTTGT | 120 |
| 5 | GCTAGCCAAT | CGTTGCTGAG | ACTATCTAAC | TTGTATACAT | GCCGCTATCG | CGGCACCGGA | 180 |
| | AGCGAACACT | ATAATGTATA | TGTCAAAGTTA | AATACATCAT | ATATTATCTT | GTGCCTCAAG | 240 |
| | GGTCTTAAAG | ATGTCATAGG | ACAGTCGCGT | GCTCAGACAC | ACGAATATAA | TCATAATAAT | 300 |
| | AAATATATGG | CGGTACAGCTT | CATGACCACG | TCAAGCCTTG | ATACCAGAAG | ACACTTCTAG | 360 |
| | GAATTTCTCA | ACGGGAGAGA | AAACACTAGG | GTGTAGGTCG | TCATTCTGCA | AGGACATCTG | 420 |
| | CTCCTCGGTC | CACAAGTTGG | CCTCTGGTAC | ATAGTCTGGT | TCACCGACAC | CCAATAAGCC | 480 |
| 10 | ACCGTGCGCA | GCCCAATCCG | TGACACGTGG | AAGCTGTAGT | GTCTTCCAGA | CGTCATCCAT | 540 |
| | GGCGTCCAAT | AGGACATCCG | ACAGGTCGTT | CGTGTGGCCT | GGAGTAGGAA | TGATACGGAG | 600 |
| | TCTCTCGGTC | CCGCGTGGA | CGGTAGGAGT | TGAAGGGCCT | GTACGTAGAT | GCGATGCTCT | 660 |
| | CCATCAAAAT | GTCGGAAGCA | CGCTTGCC | | | | |

15
1463UP

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|----|-------------|------------|-------------|-------------|------------|------------|-----|
| | GATCAAACAG | TAGAAGTATT | AGAGCTGCTT | GCAAAGGGCG | TCATAAACAA | GAGAGCTGTA | 60 |
| | ATGTCGACAA | ATTAACAGA | AAAATATCAT | TATTAGTGGA | TAAATAACCA | ACTTGCACTG | 120 |
| | AGAGTATAGT | TCTACATGTT | TATTCCGTAA | CAGAAATTTCT | ATCCAAATAG | TTTAATTCCG | 180 |
| 20 | TTTTACTTAT | CTACGGAGTA | GCAGTGCAAG | AACCTTGTAT | CCCCAAATGC | TAGAGGGACA | 240 |
| | TGCAGATGTA | TAGTAAAGCA | ACGTCGTGTT | CTTTGGATTT | AGCAGCGTCA | GGCGAACAAA | 300 |
| | AAAAATAGAA | AGTCAACAGG | GATTTGGGAAG | TTATGAGAGT | TGATATGTTT | GTCCATTAGT | 360 |
| | AAGTCATTCA | GTTGATATGA | GGTGCCTTAA | TGTTTGTAAG | AAGCAAGAAC | GAAGAGAGAT | 420 |
| | ACAAAATGTG | CAGTTGTGAA | TCGTGAAATT | GACACCAGAG | GACGTCACCT | CCCGTTGCCA | 480 |
| | CTGTTTGCCA | ATTGCTTCTC | GAGCTGCTCA | ACCTTGCGCT | GTAAATCTCT | ATTGACTTTC | 540 |
| 25 | TTTAGTAGTT | CCAATTCAAT | ATGCGTTTTCC | TTGATCTTTC | CATAGCTGAG | CAGTTTCGCC | 600 |
| | ATCTCCTGGT | TCTCTTTTGT | CAACATTTCC | AGTCGGACAA | TCATCTTGTG | AGCGAGGGCT | 660 |
| | TCTTCGTCTAT | AACGGCCGAA | TCGGGTAACG | GAATTAGAGG | GATT | | |

30
1464RP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCGAAATA | ACTTCCGCTG | AAAACGCAGC | AGAGGCAGCC | AATGGTCAAA | TGGAGCGAGA | 60 |
| | ATATCCACGA | TATTTCTAGG | GTACTGTTGC | TTGCCAGTTG | GTGCTCGGAA | ACATAACCCT | 120 |
| | CAATGGCGCC | CAGTGTTGTT | TACATACCCC | ACACCGGAAA | CAGACCCATG | AATGACCCGA | 180 |
| | AAACCACAG | CCACGCGCGT | AAGCCGCCAT | CCGGGTATTTC | GTTGGAGTTA | TCGAGATATG | 240 |
| 35 | CGCGTTCTTC | TTCTCTTACC | TTTTCTGTCG | TGAGAGGGAC | AGTCTGCTGA | GCGCAGCTGG | 300 |
| | TCGTTGGGCC | ATCGCCAAAA | AGCTCTTTGT | CGCCACACAG | TGTGGCTCTG | CCGCTGTCTAG | 360 |
| | ACGATGGGCT | GACGCTTAGG | GCTACGGGCT | CATCGCCATG | CCGTACTTGA | ACGCTGTCTT | 420 |
| | TGTCGATGAC | CACCATCGTT | CCTAGCACGT | ATGGGAGATG | CTCCGAACCG | CGTCAGCGCC | 480 |
| | ACCACAGACC | ATCTATCTAC | TTAAATACCT | AATTATCTGG | TGTCCAGCTA | AAAATCCGAG | 540 |
| | TATCAGTCAT | CCTGTGGCGG | CCTTATCACC | CATTAGGGTC | CGCTTTGCGG | TAGTGCATTA | 600 |
| 40 | CCGTGCGCGG | GATTCACTCT | CCAAAATGTC | TCAAGCGATG | CCTTGATTTCC | GAGTGTACAA | 660 |
| | GGGCCAGATT | CCAACGGGCC | AGGAGGCAAC | TAATAGAGG | | | |

1464UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTGCGC | TTTTTCTTCA | GACCGCGGTG | GGTGTAGTAT | TGTTCTCTCT | TAATGTTGGA | 60 |
| | GTTGAGGCGG | GACGAAGAGG | GCGCAGAGGG | GTCTGGCGAG | GCACCGGTGG | AAAGGGGCCT | 120 |
| | GTCCGCGCGT | TGCAGGGGCA | GCGCGCGGTC | GTCTGTTGTC | TAGTCGTGAT | GTTGGGGCGC | 180 |
| | GGGCGGCGCC | GACTGTGCGT | CCAGCGGGTG | GCCGTGCGAC | GCGAGCGCCG | AGAACTCGGC | 240 |
| | GTCGCGGAAC | TCGTACTCTT | TCTGCGGGTC | CTCGCGGCGG | CGCTTGCGCG | GCGGGTCCAC | 300 |
| | GGCAGCGGCG | GAGACCTTGA | GCCCGTTGGA | GATAATGAAC | TTGTGTTTGA | CCGAGCCCTT | 360 |
| 50 | CGGATGCTTC | TTTCCGCCAT | TGCGTTTGGG | CGCCGGCGTC | TGCGCGTCCG | GCACGGGCGC | 420 |
| | GGCCGGCGCG | GCAATGCAAT | CGTTCTCGTC | TGGCGAGACT | GGGGGGGGAT | AAACTCGCCC | 480 |
| | AGGATCGCGT | CCACGTTAGT | GAGGTCGCGG | TTGCCGTCTT | CTGCGGCTGC | GTGGTGGTGG | 540 |
| | TTGGCGCGGT | GAGCCGCGTG | CACCGCGTGC | TCTCTGTTGG | GCTTGGGCTC | CTGCTCGGCG | 600 |
| | ATGCCCGGTT | CGGCTGCATG | CCTCCAATCG | ACTTCGACGT | CGTACGATCC | CATCCAACGA | 660 |
| | ACCCCGTAAC | TTATCTCGAA | GTATGCGCTG | ATACCTATAC | TGGTCTGTTCA | | |

55

1465RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCACTTC | TTTGGCGACA | AGACATTGGA | GGGCGGCAAC | GACTGGGAAA | TCTACAACGA | 60 |
| | CCCGCGCACC | ATCGGCCACA | GGCTCCGCTC | CCCCGAGGAC | ACCGTGAGGA | TCCTCAGAGA | 120 |
| 5 | GCTGTTGAC | CTGTAGGCGC | CGCGGCTAGC | TAGTTCTTTG | TAATTGCTCG | ACATTTACAA | 180 |
| | TGCATATTCC | TATATACACC | GCGCGCAGCG | CTCAGCTGAG | CAGCCGTACG | TACGCCAGCA | 240 |
| | CGAGCGCAA | CGTACCCGTG | CACACGCCGA | TCAGCCACTG | CATGACCTGC | GTCTTGACCG | 300 |
| | AGTCGATTTG | CATCTTCATA | TTACTGACCT | CCTGGTCAAT | TCGCGTGTCA | ATCTCCTTGA | 360 |
| | TCTGCAGATT | GTGGTTGCTG | GACTCCTCCC | GGATGCGTCC | CTTTTCCAAC | GAGAGATCCA | 420 |
| | GGTTGAACCC | TGCGTTGCGC | TTCTGTGATCT | CCTCTCGGAG | CCGGTTCCGC | AGCTGCTCTA | 480 |
| 10 | GGTCGTTTCG | AATCCGCTCC | TGTTGCTTCT | GGATGGAGTG | GATCTCGCTG | CGGTCCGCCG | 540 |
| | TCAGCAGTTG | GTCCCAGT | TTTGCAGAAAT | CCACCCGCTG | CTGGTACGTC | AGCTTCGTAA | 600 |
| | GCTTCTCGCG | GGACGCTAGG | TCCTGCGAGA | CATGCGTCAC | GCCCCCGCGC | AGTGCGTCCG | 660 |
| | ACATGATATC | CACGATCGCA | TTCCGCTGCT | GGCTTGCTGA | AGT | | |

1465UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCCGCAA | TAGCTTGATT | CGATCGTCTG | GTCGCGTACC | TGCTCGACTT | CTCTTGCTCT | 60 |
| | TCTCTATGTT | CGTTGCTCAC | GGCCGGAATA | CCACTACAGC | ACAAAAAATT | CACAAGGTCC | 120 |
| | GCCGACACCG | CCTTTTAAAT | TAGCGCAATG | GCAGCGAGTC | CTGGTATATA | AGGCAAAAGA | 180 |
| 20 | CGGGAGGCGG | ACAGCTACTA | CAGGCTCATC | GAGGCATGGT | ATGTTGCGCG | ACAGTGGCGG | 240 |
| | CAGGGGGCAG | GACTAACCTT | GATGTTCCAT | AGAATGCGTT | GTACAACCAC | GCGGTGAAAC | 300 |
| | AGAAAAAGTT | GCTGGAGCAG | GAGCTGAATC | GATTTGAGCT | CGGGGTGGCG | GCGCCGGTGG | 360 |
| | GGCTGCAGGG | TTCATATCG | ACGGCACTGG | TGGGACTGGA | GCGCACAATT | GAGCAGTATC | 420 |
| | AGGCGCAGGT | GGCGCAACAG | GGCAGCGGCG | CGGAAGCCGG | CAAGCATGCG | CAGCGCGTGG | 480 |
| | GCGAAGTAC | GGAGTGCGCA | ACGAACGCGC | GGCGGCGGTT | CGAGGGGCTG | CGGGCCGCGA | 540 |
| 25 | GCAATGCAGCC | GGTGGCGTTC | CAGAGCGGGG | CGGCAGCGCC | GGAGGGCGCC | GTGAACCAGC | 600 |
| | CGGCGGCGGG | GGCGCGCAC | | | | | |

1466RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTCTTAC | TTTTCTTACT | CACCAATGTC | TTTAACAGAC | ACCCAGAGTC | ACGGCCGGCA | 60 |
| | GCCTATCTGC | CGTGCTGGCG | CCATGCCCCG | CCCCTGGTAC | TGGCCCGCTC | GTGCTCGCGG | 120 |
| | TAGTCTCACA | GCAACGGAGC | TTGCTCCAAT | TGGGCTGCAT | TCTCCCGACC | ACAGTCTGTT | 180 |
| | TGTCACGTGA | CTCTCAGCCG | TCCCGAATGT | ACATTTCTAT | TTATCTACTT | CTTGCCGCCT | 240 |
| | TGCCGCCACC | ACATCCGGTG | CCGGGCGAGC | CACCGACCGC | GCAATCGCGG | CCTCGCGTTC | 300 |
| | GTAGAACTGC | GCACAGCAGG | TGTACAGTGC | CTCCACTGCC | GCCGCGCAAC | GGCCCTCTCT | 360 |
| 35 | GTACCTCTGT | CGTTTCAGAC | ATGCCCTGGT | CGCACATGCC | TGGGCCTTGC | ATGGGGGCTG | 420 |
| | TCCCTCTGCG | CTGCGCGCGC | TATTGTCCAT | GTTTGTGTTT | CTATCTGTTG | GCCGGTACCA | 480 |
| | CGTTGTTGTA | CCAGAGTACA | TTGTCCGGGT | GACCCCGTGT | AATGTCAACC | CGTGGGCCAC | 540 |
| | AGATGACCCCT | GCCACATGCC | TCATTTCTTT | GACCGCACCG | TGCCGCGAGA | CCGCCACAT | 600 |
| | GGGCGGTGCG | CACCTCCGACG | ACACCCACGG | GGCGGCACTG | CAAGGGTCGC | AGGTGCGGAT | 660 |
| 40 | GAGTCAAAAC | AAACCAGGTG | TGGCGCTGGG | CGGGTGAAAA | TCGACTCATA | GAGAC | |

1466UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTATTA | ATTTTGATGG | TGCTATATTC | TAAATTCAAG | TAATGATAGC | GCGTGATGCG | 60 |
| | GTACGTACCT | ATACATATAA | CGCACAGTTC | ACCATCGTCT | ATGCGTGTAT | GAAAATCACT | 120 |
| 45 | CCAGCCGTGC | GACACGCCAC | GTGTAATCTA | GTGAGTTTCA | AGTTCTTCCT | CCTCATCGGC | 180 |
| | AGAAAGTTCC | CCCGCGGCGG | TGAGGTTCTT | GAGCCGCTCC | TTGAGCTGCG | CGATAAGGCT | 240 |
| | ATTCTCCCTT | TGAGCATGCA | TGCGGATACC | CTCTAGAGAC | ATATGAGCCG | AATCTGCACC | 300 |
| | ATCTAAACCA | TGTTGCTGTG | TGCTGCCAGT | GGCAGCTGCC | AGTTTGGGAC | TGGACAGACC | 360 |
| | TGTCTGTCCA | TCTTTGTAAG | AATCCTCGGT | CGTTGCCGAG | TTGGAATTCA | TGGTTCCCAT | 420 |
| 50 | AGTGTGCAAG | ATTTTCTCCT | CTTCTGTTAG | TTCCAGATGG | GTACCTGTCA | GATTGATCAA | 480 |
| | GGACCTGCCG | CTTTTACGGC | GCGAGAGCTT | GGGCAGAAAG | GAGTGCCCGG | TTGGCGTCCG | 540 |
| | TTCAACCAAG | TTTGTAAATG | AGGTGTGAGA | TCTCGGAGTC | CTTGGTAGTC | TCAGACACGA | 600 |
| | AGCACCGGCA | TCATGTATCC | ACTTCGCAAC | AAGCGAAGTC | CAGCCACACT | GGTGTGATGC | 660 |
| | GCCCAAGCCC | CTACCAAGTGT | CACCATCGAA | GTAT | | | |

1467RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCGCAGAC | TCCGCCGGAG | AGACTTTTCGC | ACCTCGGGCA | CAGGTCTTGA | AAGAGAGCTC | 60 |
| | CGGCCGTTCC | GTGCCAGACT | CTTGTTTATC | ATGTCCGTAA | GAGCAGCGTT | CGTGCCAGGT | 120 |
| 5 | ACGCCCTTCT | TGTTGGTGTT | TCCACCAATT | GATGGAATTT | GAGACGTGAA | CCTCTGCCGA | 180 |
| | TTCRRKCTAT | TGAGCACACC | ATTGGCACCA | CTTGAGCCCC | TTCGCTCTGC | CATCCCTAAT | 240 |
| | CGTCCTATCC | TACGGCCGGC | TAATAAGTTA | CTACCAGACT | CTGGCCCTCA | TCTGGGACTG | 300 |
| | ATGTTATCGT | CTGCAGCCAG | ATCCTGTTTG | TGACCCGATC | GAAATCATCG | AGTACGAATA | 360 |
| | ACCACGTGAC | CATTATTTCAC | GTGATGAATT | TGGCGGTCCC | TGTTGCCGAC | TCTTACTCCA | 420 |
| | GGTTAACCAT | GACTIONATGG | GCATACCTCA | GATACGTTAT | TCATGGGATC | CGGAGTTGCC | 480 |
| 10 | GCGTCGGCCG | AACCGCCCGG | TGAATCTGTG | CTGACGACCT | AAAAAATAGT | GTGCCCAAGC | 540 |
| | TTCTTAAATC | TGTGAGATGC | ACACTGACAA | ACTTGAAGGC | TGAACCATCA | AAGCGATACG | 600 |
| | CCTCATGCAC | GTGCTCAATA | AGGTCCAGGA | AGTCTCGCAA | TGGGGCAAGC | AGACGGTAGA | 660 |
| | TTGCAAGACA | CAGACGATTG | GGTTGTGCCA | | | | |

1467UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCGTCCGA | GTGCAAAATCC | ATACCAAAAA | TGTGGACCCA | GGTACGGGAT | TGAACTTCTT | 60 |
| | CGAAGAAAAA | TAGCCTCAGT | GAAGTGCCCA | ATTGCCTTAT | AGTCGTTTTG | CAGAGCATAT | 120 |
| | AGAAATGTGG | GACAAGGCGG | TGGGGGGGGT | TGTCGGACGC | GACGGAAGAA | GGGATCTGGG | 180 |
| 20 | CGGGAATTAC | GGCGGTGAGA | GGCAGGGGTG | CGGAAGAGAA | AAAGGTGAAG | CGAGTTGTTG | 240 |
| | CCATGAGCGA | GATGCAGCAG | CCAAATCTTA | TCCCAATGGT | AAACGAGGCG | GTCCAGATGG | 300 |
| | CCCAATGGCG | GAGGGCAACA | GGGCCCCGCT | CCTTTTTTGC | CGGTCTGCGG | TGCTGTTTTCT | 360 |
| | TGGACTTGAC | GGTCAGCTCG | GTTTCATAGC | CGGACTCGGA | CTCGTTGCAA | AGGTTGTGCA | 420 |
| | GGTGCTTGAG | CAGGCGGTGC | TTCTCGTGGT | GGTTGGACAT | GATTATAGGG | CTGCAGTATA | 480 |
| | CTCGGATGCA | TTTGCGTGCG | GTGTAGCGCT | TCAGGAGAGC | CGCCAGCGTG | CTCTTCTGGC | 540 |
| 25 | CCTTCTGGCA | CACGGGAATC | ACGGTGGGGC | AGGGCGCCTT | CTCGCACAGG | CCGTCCAAGA | 600 |
| | GCTCTGGCGC | CTGCGCTATG | TCGTGGAAGA | CCACCATAAC | CGCGAGGTAC | CGCTGGCCCA | 660 |
| | CGTCCCAGCG | CGTGACCATG | CCGAGGTTCT | TCACGTCAAA | | | |

1468RP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTCGTCG | CTCATTTGTCG | ACCTGCAAAA | AGTGTTCAGA | AGGAAGGCAA | CATGTGTTTT | 60 |
| | TAATCCTACG | GCCGTGGCCT | CAGAGATTGT | TCACTCAATG | TCGTTTCATCA | TTATGAATGG | 120 |
| | GTGCCCCGGC | CCTGCCGGCC | TCGAACCCGC | GCCACACGGC | CTCCGCCCGC | CGCTGCCCCG | 180 |
| | CTGGGCCACG | CAGGGTCCAA | AACCCACCCA | AACTCACCGC | GCCCACCCGG | CTACACCGCC | 240 |
| 35 | GCCAGCACGT | CACGTGCGGT | TACCCGCCCT | GCCGGCACTG | AAAATTTTTT | GCCGCCAACA | 300 |
| | CTATCGCGCC | CGAAAAAGCA | ATTTGCCGGC | CAACCACACA | ACGATCTGTT | ACCGAACAGG | 360 |
| | ACAGGACTCA | TGCCCCGTTT | CCTTCTTTAT | TTATTTACTA | GCTCCACATA | GATATTTTTG | 420 |
| | ATATTTATAT | GGTGTGTTTT | CCTCCGCAAG | CCGCAACCCA | GCACTTAGCA | GACCACGGGG | 480 |
| | GCAGGGACTG | ACACCCAGCC | AGAACAGAAC | AACAACAGGC | GACCTTACAA | TGAGCATGGA | 540 |
| | AACGCCCCCT | GTAGATATCG | ACAACATCAT | CGACCGCTTG | CTGGAGGTGC | GGGGCTCGAA | 600 |
| 40 | GCCGGGGCAG | CAGGTGGACC | TCGAAGAGCA | CGAGATCCGC | TACCTGTGCT | CCAAGGGCCG | 660 |
| | CAGCATCTTT | ATCAAGCAGC | CCATTCTTCT | | | | |

1468UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCAGAA | TTATCGGCTA | GCAATTGATA | TTAGCATACT | TAATTCGTGC | TAAATACTTT | 60 |
| 45 | GGCATCGCAT | CTAGACATAG | GAAGTAACCT | CAAAAAAGCT | ACGCAGATAG | TAAACCTGGA | 120 |
| | AGAGAGATTG | CGCAACAACA | ACGGCCAGTT | GGAAAAAGTA | CCACCACTTG | ACCTGTTCAT | 180 |
| | TTGTAGACTC | AGCAGTGTTT | CTGTGTGTGC | GTTCGCGAAT | CTCGATGTAC | TGTTGCTCGT | 240 |
| | TCATTACTTC | CATTGTGAGC | ATGGAGAGCT | TGCGCACCGC | ACCCTCTAGC | GTCTCCGAGC | 300 |
| | TGGAATCAGC | GGCATCGGGG | GAGAGAACAC | CGTAGGTATT | AAACGTGACA | TCCTTAGTCA | 360 |
| 50 | GGTAGCCCGA | ATTGTGCTTC | GCAAAGCAGT | ACTGGTATTT | GCCATCTGTA | GGCGCCTTCA | 420 |
| | AGGTCAACTC | ACCGTGCGAC | GACGCACGCT | GCGCATCCAG | CACTGACCGT | CCGTCAATCC | 480 |
| | CGTACACCAG | CAGGTCTCCA | GACAGCTGTT | GATGTGATTG | TGGGTCTCTG | TCGCCGAATT | 540 |
| | GATAAGTGAT | TGTCAGCAGC | TCCCCGCCCT | TCAACTGCTC | AAAGAAACAG | CGCCGCCCGT | 600 |
| | AGGGGGGAAG | AAGTACATTG | | | | | |

1469RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCAACTAC | ATCTGCGAGC | AGCAGCCGAA | TTGTAAGGTG | GCCATCATAG | CATATGACAA | 60 |
| | GTGGCTGCGT | TTCTTCAACC | TGCGCCCGGA | GTGAGGCCAG | GCACAGGAGC | TGATTGTGTC | 120 |
| 5 | CGAGCTCAGA | GAAGTCTTCC | TGCCGCTGTA | CAGCGGCCTC | TTCGTGAGGC | CTGCGGAGGC | 180 |
| | AATGCATGTC | ATACAGGACA | CGTTGGTCAA | GCTCGAGTCG | TTTATCCAGG | ACGACAAGCT | 240 |
| | CTCGCACGGC | GCCGAGGCGT | GCTTCGGGTC | GGCGCTCGAG | GCCGCGCTGC | TGGCGCTGGA | 300 |
| | CACTGCCACC | AATGGTAATG | GCGGCAAGAT | CATTGCGACT | CTGAACACGC | TGCCCCACCGT | 360 |
| | GGGCAACGGC | AATCTGACGC | TGCGGCGCGA | CGACGGCCTC | AAGAAGAGCC | TGAAGTGCGA | 420 |
| | CAACAGCTTC | TACACCGCGC | TGGCGGACAG | GATGCTGAAG | GCGTACGTCG | GCCTGGACCT | 480 |
| 10 | CTTCTGCACA | GGCAGCGCCT | TCATGGACTT | TGCCACGCTC | GGCCACCCCG | TGCTGGCCAC | 540 |
| | CTCCGGGACG | TTCCGCCACT | ACTCGAACTT | CCAGCTCGAC | GCGACGAGTT | CCCGCTGGGT | 600 |
| | CAACGACATG | CTGCACGCCG | TCAGCAGCAC | CGTCGGCTAC | CAGGCGCAGC | TCAAGGTGCG | 660 |
| | CTGCTCCTCG | GGGCTGTCTG | CAGTCG | | | | |

1469UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGGGCGA | GCAGGACTAG | AGATGAGCAG | CAATGACAGT | GATTATCTCC | TGGTTACCTT | 60 |
| | CAAACTCTTC | ACTCTCCTCA | AGAACTTGTT | ACCTGATGAC | TCCTTCTTAT | TGTCTGTGTC | 120 |
| | ACGCGCGCCC | GTGTAGGCGT | CTTCGTCGTC | CTCCTTCTCG | TCCTCAAGAT | AGCCAGAGTG | 180 |
| 20 | GGTCTTAGTC | AGCTTCAGGT | TGCCGTTTCT | GGGGTCGGGG | CCAATCGCCG | ACGCGGACGG | 240 |
| | AGGGCTTTTC | GCCAGCCTGT | GGCTCAGAGA | CTTCTTCTTG | CCCACCGTGC | TCTGCTTCAT | 300 |
| | CGCCTCTATA | GCGACAGGGG | CCGCCGGCGC | GCCGTCGAGG | AACGTCGTGG | AGCCAAGCCC | 360 |
| | CTGTGTACAG | GGCCCATGCA | CAAGGTCCGC | GGTTACCTTG | GCGTCGAACT | GCCTCACCTC | 420 |
| | CGAATGGTTC | TTGATAGCGT | TCACCGTCGA | CGACGAGCGC | TCGCCGACGT | CGCGGCGCGA | 480 |
| | ATACAGGTAC | GAGTCGTCTG | CCTCGTTCGAT | GCCGAAGACC | TCGTTTCATCG | CAGACTTGTG | 540 |
| 25 | TGCGGTGGCC | CCGACAACGT | CGAGTTCGGC | CG | | | |

1470RP

| | | | | | | | |
|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTTGCTG | CTATCCAGAA | ATGGGAAGTT | CTTAGACRAC | GGGGAATTAA | GCCCCTTTTT | 60 |
| | CAATATTTTG | AGCGTCGTTT | CATAGCTCGG | AAGACGCAGC | AGAAGCCCCC | CCAGTAGTGT | 120 |
| | CTGTTTCATGT | TGCTCATGTA | AAGGTGTCTC | TATCAAATCT | AGCTCCATCA | TGCGAGAGTA | 180 |
| | GTTATTATCT | TTCTTCCAAG | ACAGACGCAC | ATGCCGCAAC | TTTCGTACAG | TTACAGTAAA | 240 |
| | ATAATGGTAG | AACCGCGGAC | TCACAGAATC | GACGACCGCT | CGAAATGAAG | TGCGCCCGTA | 300 |
| | GAAGATCGTG | CGGCCCTGCT | TCTCTATCAC | AAGATGGAAC | TGCGAAAGTC | TGTTACAGGG | 360 |
| | GGACACCGTG | CCCATTAACGT | GCTTCTGCAT | GAACAGCTGC | GGTACCATCT | CGCTCTTCAT | 420 |
| 35 | CCGCGCGAGC | TCAGTCTCAA | GCTCGTCGAT | CCGTCCGACAT | AGCTCCACAT | TGGGCGTTCT | 480 |
| | AGCTGAACAG | CTCCCGTGAG | TTACGCTCGT | GCGTAAACTC | AGACAGGTAC | ACACACTCGG | 540 |
| | GCAGGCCCTT | CCCAATACAT | TTAGAGCACT | TGCGCCCGCG | CTTGTTGCAC | TTGACGCGCC | 600 |
| | GCTTGCGGCA | GAACACGCAC | GACTTGCTGA | CCTTCCGCTT | GGTTTTTACA | ATCTTGCCAT | 660 |
| | CGGACTCTGC | CATCCCGCCA | GCTTCAGCAA | AATGAGTAG | | | |

1470UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCGGAC | GTGGAACACT | GGCCGGAGAT | GCGCGCGGCC | ATCCTGGTGG | TTTCTGCGGA | 60 |
| | CCGCAAGGAC | ACGCCATCGA | CGAGCGGTAT | GCAGCAGACG | GTGCACACGT | CGGACCTCTT | 120 |
| 45 | CAAGGAGCGC | GTCGCGACGG | TGGTGCCGCG | GCGGTACGGA | GAGATGGCGG | CGGCGATCCG | 180 |
| | CGCGCGCGAC | TTGCGACCGT | TGCGCGCCCT | GACGATGCAG | GACTCGAACT | CGTTTCACGC | 240 |
| | CACCTGCCCT | GACTCATTTT | CGCCGATCTT | CTACATGAAC | GACACTTCGC | GCCGGATTGT | 300 |
| | CAAGCTGTGT | CATCTGATCA | ACGAGTTCTA | CAACGAGACC | ATCGTGCGCT | ACACGTTTGA | 360 |
| | CGCGGGTCCG | AACGCGGTGC | TCTATTACTT | GGCGGAGAAC | GAGGCGCGGC | TCTGCGGCTT | 420 |
| | CCTCTCTGCC | GTCCTTGCGG | CCAACGACGG | CTGGGAGACC | ACGTTCTCGA | CGGAGCAGCG | 480 |
| 50 | CGCCACTTCG | CCGCGCAGTT | CGACGAGTGC | GTGCGCGGCA | AGCTTGCGAC | GGACCTGGAC | 540 |
| | GACGAGTTGC | ACAGAGGAGT | TGCCCGCCTC | ATCTTCACGA | AGGTGCGGCA | GGGCCCCAAG | 600 |
| | ACACTAAATC | CTCGCTCATC | GACCCCGAGA | CGGGCCTGCC | CCGCTGACGC | TATTC | |

1471RP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCAATTAA | CTATCTAGAT | GAGTCTAATT | AATTAATATA | CTTAAAAGTC | CCGTTAATAT | 60 |
| | CATTAGCTAC | CCTATCGGAA | CAGACCGTCT | GCTACTAGGC | CGAAAGGGTA | AAGCAGTTGT | 120 |
| 5 | CAGTCAGTAC | TTGCTGTTGC | TTATGGAATG | CCTGTCTATAT | GCCGGCAGCT | TGTTTGTAC | 180 |
| | TGGAGTACGG | CGCGTGCCGC | CTTGACAGAG | GTACCCATGA | TTCTGAACGC | CAAGGTACCA | 240 |
| | CACCTTCTCTG | CCACATCTCC | TGACCTCTT | CCAAAAGTCAA | ACCCCTTTGTC | TCGGGGACAA | 300 |
| | AGAAGAAGAT | GTAGAAGAAC | GCAAAGATCA | AACAACCCAT | GAACACGTAG | CCGTAGTAAA | 360 |
| | ACCTGATCGC | ATTGGTAATG | TATGGTGTA | AGAAGGCGAT | CAAAAAGCCC | CATATCCAAT | 420 |
| | TCGCGGCTGT | GGCGATAGCC | ATGCCCTTGG | CTTTGACTCT | TAATGGGAAA | GTCTCCGAAA | 480 |
| 10 | CAATGACATA | CGCAATTGGG | GCCCAGGTGA | TTGCAAAGAA | GA AAAATGTA | GAGGCAGGTA | 540 |
| | AAAACAATCA | TAGCATTGCC | TGCCGGTCTG | GAAGAAGGCT | GATCGGGTCC | ATTGGGCCAT | 600 |
| | AGTCTTGTC | CACCAACGGA | GGCAAAAATA | ACCATACAAA | CGGCCATTGC | CGCGGCACCG | 660 |
| | TAGAAGCAAA | CATTTCCTCC | TGCCAAATCT | ATCGACAGTG | TTACATTG | | |

1471UP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTTCGCC | TTCTTCTACA | TGTTCTTCTT | TGTCCCAGAG | ACAAAGGGTT | TGACTTTGGA | 60 |
| | AGAGGTGAG | GAGATGTGGC | AGGAGGGTGT | CGTCCCATGG | AAGTCCGAGT | CCTGGACTCC | 120 |
| | TTCTTACAAG | AGAAATGCTT | ACGAGACTGA | GGAGGTGAAG | CCAGAGAAGA | CCTGGGCTTA | 180 |
| 20 | AAAACCTTAA | ACTACAAACT | TTTTTGTCT | GCTAATCATC | GGGTAAAAAC | CTAAACCTAA | 240 |
| | TCTATGTTCA | TTAATA TTGT | TATGACGTTT | ACGAGATAGC | ATATGTAAAT | TACTATTAAA | 300 |
| | AATATGCGAT | TAATCTGTAT | TTATTAGTTG | TAATTGCAAT | GCCATATGAT | ACTGCAAAAGC | 360 |
| | AATACATGCC | GAGATAACCA | ACGCCACTGA | GGCGGGACTG | GGCCCCCTCT | CCGGCCCCGGC | 420 |
| | GAACATGCC | GTGCTTGGTG | GGCCGCGTTC | CCGTGCGCCG | CCAGCCGCAT | GCCCCGTCGT | 480 |
| | GGTCATCGCC | CCACTTTCAA | ACTTTGTAAT | CGAGCAGGAA | ATTAAGATTTC | GTTATAAATG | 540 |
| 25 | ATATCAAAT | TTTCGTCTGT | TCTTTTCAGT | GAGTAATATT | GTTCCGGCAC | CGCACGCCGA | 600 |
| | TGATGCCGCT | ACATCGCACA | GGGCCAAAGC | ACAGGTGCTA | AACTATTGCT | TAGTTGGCGT | 660 |
| | CGTTGAGCTC | GTTTATGCTT | AGTGAATAT | CTGCAGCATA | TTCAATATCA | AGTCTGAA | |

1472RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTATCTC | CCAGCTTAGA | GAGACCGTCC | GGATGTAAGT | GATACCCAGA | CAGCCAATGA | 60 |
| | TACTGGTCAA | GTTTGTAGT | TTTATAAGAA | AACATATATT | AAACGGCTAA | AGACAGAAGG | 120 |
| | CGAAAAGCCC | GACTTTTATG | GGCGTAGAAG | TCGTGAAAAA | GGCGAAAAAC | TATATTTCCA | 180 |
| | CTTAGGGCTC | CTCCTTCCTC | ACGTAAACGC | GCATCATCAT | ACGCCTTCTG | TGAGTCAAGA | 240 |
| 35 | GCACTACGAC | ACGCCGTGCA | TTCCCTCATA | CAACCTTGCC | AACACATGAT | CATGTCCAAG | 300 |
| | GATATTGCTA | CGACCCAGAA | ACTGTCCGAA | CCAGACAAGT | ACTTCGTTGA | GCAGCGCGAT | 360 |
| | TTGCTGCTAC | AAGAAATCAC | CTCCACGTTA | GACTCCATCC | TGAACAACCT | AAATGGCCTG | 420 |
| | AATATTTCCT | TGGAGAACTC | CATCGCAGTA | GGCAAAGAGT | TTGAGAGCGT | GTCCGAGCTT | 480 |
| | TGGAAGGTCT | TTTACGACGG | ACTCGCGAAC | GGAGCGGCTC | CTGGAGTTGC | CGCAGCCAAC | 540 |
| | CCGTCTCTCT | AGGACCTGCC | CACTGAGCCC | GTCCGCGCGC | ACCAGAATGC | TGCAGCGGGC | 600 |
| 40 | AATAGTGACG | CACCAGCGCC | ATCGCAGTAG | CGTTTGCACT | CTGCCCTGGC | TTTACACCCG | 660 |
| | TGCACCCACA | TTGCGCTCTA | CTTTTATGTG | TCATC | | | |

1472UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| 45 | GATCTCGATT | GAATGCCAAT | GAAGGTTTAT | GGCCGTACAG | GGAGGTATAA | CAGACTTGTA | 60 |
| | ACGACTTTTG | GTAAGACCCA | CGGTGAGGAA | GATAGCTGGT | TTAGCAGCGA | CGATGAGAAC | 120 |
| | CACGGCAGAC | CAGTTAGCGA | CGACACAACC | AAACTCAGCC | TGAGCCAAGA | TCGATGCAGC | 180 |
| | GAATTACCGG | AGGAGACGAT | AGGTGCGAAT | AGAAAACGTC | CGGCGGAGCG | AACGCAGACG | 240 |
| | GATCCGGTGT | GGGAGTTTCT | GGAAACGGCC | GCATCGGGGC | AGAAGCGGAG | AAGACGAGCA | 300 |
| | ACATGCGATT | CTACAGAATA | TAGAGAGAGT | GCCAGTCAAG | AGTTTCTAAA | CGCTGTGAAC | 360 |
| 50 | GTTGTGCAAG | GCATAGTGTG | TTCTCTCAAG | CCTGCAAAAAG | AGGTAGTTGA | GCACTGGGCG | 420 |
| | GAGCTTGAGG | ATGTGCCAGA | GGATCGGGGC | AATAACGGGC | AGCGGGTCTA | TGGCAAAACA | 480 |
| | AGAACATGCT | TGCAAAAAGCG | GAAGAGGATT | CTGACACCGA | AGCTGTGCA | CATGAGTCTG | 540 |
| | ACGAACCGCT | GCACAGGGCG | ACGAAGCACT | ATCGCGGCAC | TTTAATGAGC | TGCGTACGAT | 600 |
| | GGGCGAGACT | CTTAAGTACA | GCGAAGATCT | GGACTTTATA | TTGTCCGACA | ACTCCATGAC | 660 |
| 55 | GACACCGGAA | CATAGACGCA | CCACATGCTG | CGCTTGCTGC | TGGATATGAT | GAACAACGA | |

1473RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCATCA | TCCTGTACAC | CAAGCGCGAC | GTCTGCGCCG | CGCCCAACCC | CGCCGCGCTC | 60 |
| | CACCGCTGGC | ACGCGGAGAC | CGGCGACGAC | TACATGCTCC | TCGACGCCCC | CAGCGCGCGC | 120 |
| 5 | GACGCGCGCG | CGCTGCTCGC | CGCCGTGCGC | GCACGCTACG | ACGCGCGCCG | TGCGCGCGCC | 180 |
| | GGCGCGCTCC | CCCTCGGCTA | CGCCTGCTC | GTTCGCGGCA | TGCCCCACGT | CGGCAAGTCC | 240 |
| | ACGCTGGTCA | ACCGCCTCCG | CGCCTCGGCG | ACCGCGCGCC | CGGCCAAGGT | CGCCGCCACC | 300 |
| | GGCGCCACC | CCGGCGTCA | GCGCGCTACC | AGTGAGTGCG | TGCGCATCGC | CGATCACCCG | 360 |
| | GCCGCGCTCT | TCATGCACGA | CACCCCGGCG | GTGCGCCTGC | CGCCCGCGCG | CTCCTCCGTG | 420 |
| | CGCCGGATGC | TCGCCCCTGC | TCTCGCCGCG | TGCGTCGCGC | CGCCCGTCTG | CGACCCCGTC | 480 |
| 10 | ATCCAGGCGG | ACTACTGCTC | TACCTCCTCA | ACCTTCAGGG | CCTGGCCCCC | TCCTACGCGG | 540 |
| | CCTACAGCCC | CCCCACCAAC | GACATCGCCG | CCCTGCTCGC | CGCCGTGTGC | ACCGGCCACC | 600 |
| | GCCTACGCTC | CGAGACCGCA | GCCGCCCTGC | ACTGGCTTGC | CATCCGGGCC | CCGGGCCTCT | 660 |
| | GCCTGGAACC | GGAAG | | | | | |

1473UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCTAGACG | GAGTTATTAT | GCGCGGCGAC | CTCCAGCGAC | TGATACTCAA | GAATGTGCGC | 60 |
| | TCCGTGCGGT | GGTGGAGGTT | CCGAGAGATC | CACGAAATTA | CGCTAGATCC | TAATACGTTT | 120 |
| | ACCAAGAAAC | AGGGCTTTGT | GGGAACTATA | CACGGGCCAG | ATCAGGATCG | GGTGGAAAGTG | 180 |
| 20 | CGGCAGATAA | ACAGGGCTGT | CATGAGTCAG | GACACATACT | TCCACTTTGA | TAGTCTTTTG | 240 |
| | AGGGCCAGGT | TCCAGAACCCT | CAACTACATC | AGTCTGCACA | ACGTTTCCGA | GGAAATTACT | 300 |
| | GGCATCATAG | TGCCTCACCG | ACTGTATTGC | AATGGCCGCA | TCAGCATTGC | AGGCTGCGTC | 360 |
| | GTGAAGGGGG | TTGTAAATGAT | CTAAACTTGC | CCGGATATCC | CTATTGAGAA | ATAAACACAT | 420 |
| | GGGTGAAGTT | ATACATAGGC | GCGGAAGAAG | CCGCTTGAAT | ATTGATAGAC | CGAATAGTGC | 480 |
| | GATCAATGTA | ATTAAATAGA | TAGGTTACAG | CCCTACCGGG | CTGGCATTTC | GTCCGAGATT | 540 |
| 25 | GGTCTGCCTC | TACCAAGTCA | GCCAGTTACC | GGAGGGTGAA | GTAGTAGGAC | ATCATAACTC | 600 |
| | ATAAAAAACG | TTACATTCTG | TGTGCTTGTC | GGGAAATCAG | TAATCATGCA | GGTGCCTCGT | 660 |
| | GAAACCGAAG | GAAACGTAAT | GCGGTGGAAT | AAGTAAAGA | TGC | | |

1474RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCGTTTAC | TTTAATCACC | TGGGACGCGC | TGCCTTGCGG | TTCCAGCACT | GCCTGAAACT | 60 |
| | TGGCCAGGCG | TTGCATCACG | GCATTAAGCT | CCTGTACATC | GCGCTCGTGC | TGGGCCTCCA | 120 |
| | GCTGCAAGCG | CAGTTTCAGCG | CTGATATGCT | TCCCGCCCGG | TGTAGACATC | TGCGGCAAGC | 180 |
| | TAGGGTAGCT | GCCCCACCGC | CGCAGCGGCG | AGCTGCGCGC | GCCCTTGTC | GCCGTCTTCT | 240 |
| 35 | GTGCCCCCAT | TAGTGGCCGT | ATCATCGTCT | CGATCCCGCC | GTTTGCCATC | ATCGGTATGG | 300 |
| | GTGTGTTGTA | ATCGTCAATT | ACCGCACTCC | AGTCTCTGCT | CAGGTCCGTA | AAATACTTGT | 360 |
| | CTTTTTTGCC | GCCAGCGTGG | TTAGACCCGC | CCGTGGTGT | GCTCCGAAGC | GGGCTCAAGT | 420 |
| | GCACGCCGCG | GTGGCTGCTG | CTGTGGCTCG | ACAGGGACGC | TGCATAGTCT | GCGACCTCCT | 480 |
| | GATGGCGCTA | ATATTCCCAT | CGCTATCTGC | AGGCTCCAGC | GATGGCGACG | CCAGCTGATT | 540 |
| | CGACTTCGCC | GATGACGGCG | TCTTCCACGA | CTTGATCAGC | GAGCCACAA | GCGACGAAGA | 600 |
| 40 | TGATGAATTT | GACTTTTGGT | ACATTTCTTT | GGACCCATTC | CCATTATGGG | GAACCGTCTT | 660 |
| | GATAGCCATC | ACAATGTATA | GCTCGCTACT | CTGAACCGCG | TGGCAACCAC | TGCAAC | |

1474UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAATTC | TCACAGGCCA | GTACCTGCGT | ATTACAGGTT | TGCCATAGTA | TGATTAGAAC | 60 |
| 45 | CGTAAAGCCC | AAGAATGCCA | GGGCCAAGAG | AGCTCTGGAG | AAAAAAGAGC | CGAAATTGAC | 120 |
| | GGAGAACGTG | AAGCAAGCGC | TTTTAATTC | TGGCCAAACT | TCGAATAAGC | TCTTGCACGA | 180 |
| | TGTTATGGTG | GACCTTGGTG | GACTCAAGAA | GCCTGATGTG | AAGCGCTTCA | CGCGGAAGAA | 240 |
| | CGAGCTTCGT | CCGTTTGAGG | ATGCGTCGGG | TGTCGAATTT | CTCAGCGAGA | AGAATGACAG | 300 |
| | CTCGTTGGTG | GTGGTCTGCT | CCAACCTCGA | GAAGCGGCGC | AACAACTTGA | CATTCTAAG | 360 |
| 50 | GACGTTTGGG | TACAAGGTTT | ACGACATGAT | GGAGCTGCAG | ATTGCAGAGA | ACTACAAATT | 420 |
| | GCTAGCGGAC | TTCCGGAAGC | AGACGTTTGC | AGTGGGGTTG | AAACCGATGT | TTTCCTTCCA | 480 |
| | AGGTGCGGCA | CCGTTTCTC | ACCCAGTATA | CAAGCAGTTC | AAGTCTTTGT | TCCTCGACTT | 540 |
| | CTTCCGCGGT | GAGGTGACCA | AGCTGCAAGA | CGTTGCAGGG | CTTCAGCATG | TGATAGCAAT | 600 |
| | GACGATCCAG | GGCGACTTTG | AGGATGCGCA | GCCATTGCCC | AACGTCTTTT | TCCGCGTCTA | 660 |
| | CAGGCTTAAG | ACGTACAGAA | GCAGCCAAGG | TGGTAAGAA | | | |

1475RP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCGACCA | ACGAGCGCAT | CTGCAGCCAC | ATCGTTGATA | ACGTCACCAT | GATCGACGAA | 60 |
| | ACCGAGGAGG | ACCAGGGGCG | AAAGAAGGGC | GCCTTTGCTG | TTTGAAGCCG | GATCCTGCGG | 120 |
| 5 | CGTTCAACCG | TAAATAGTCT | TATAGCCAGC | ACGCCAGGCG | CCGGCCGGTT | CCTATGTAGT | 180 |
| | CCTGCAATCG | CTCGCTTGCT | AGCCGCACGA | TCACAGAATA | CAGCTACTTT | ATCCTAAATC | 240 |
| | CACTCCTATC | AAAAATATCCA | GCCGCGACAT | TTGTTCTCTG | TCTCGTGGGA | TGTGGCGGTC | 300 |
| | GCCATTGTGG | AGTAGGGCCG | CAACTCGGAC | AGCGACCACA | GGTCGCCATC | ACAGCTGCCG | 360 |
| | GTCCCGTGTG | CGTCCCTGGA | ATCCTGCTCG | AAGCCCTTCT | GGTCAAAGCC | AGCCAAGCTC | 420 |
| | CCCTGTCTGA | TGGCGTCCTC | GACCGCTGCG | TCCAGCAAGT | CCTGGTATGG | ATCTGCGCCG | 480 |
| 10 | ACGCTTCTGG | GGGCGCGAGG | CGTTGTGTGA | AGCCAGTCCG | ACAGAGAGGG | TGTCGCTGTT | 540 |
| | AGCGCAACAG | ACGAGGCGCC | TGTGCCGGCC | GCATGGGCGG | CCGTGCCGAA | TGCGTGCGGG | 600 |
| | TTCATGTAAAT | TGCTGCCCTG | GTCCGATGTG | TATTGTGTCT | GCGAACGGGA | AATCGGGGAC | 660 |
| | GCAGGAACGT | TGCGCTCGCC | GCCATCGTTT | TCCGAGCTCT | TCGGTTGCGG | CACCAAAGCC | 720 |
| | TCCTTCTGCA | GCATCCGCCC | TGAGCCGTT | | | | |

1475UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTCCGT | CCCGAGTACG | GTCGTCTCTT | CGAGATA TNA | GCACGCAGCG | CAACTGTATC | 60 |
| | AAGCTAACCA | ACACAGTKCG | CACGCTTTTC | GAGCGAGCT | CAGGCGCGAG | GTGAACCAGC | 120 |
| 20 | TCTGAGACAG | ACAGACGCCC | CTTGTTTACA | AGTAGCTCAA | TAACACGTCC | GGCTCGCTCG | 180 |
| | CCGAGGTGCG | ACCGCGCTAC | CTCTGTGTAC | AGGAAGGTTT | CAGGACTCAA | TGTCCTCATC | 240 |
| | TCCAGTGTG | ATACCGGCAC | CTCCGCAGCA | CGCTCGTTTT | CGACTTGTCC | ACCTGCAGCA | 300 |
| | CCCATAGATC | CGTTCAATAT | GCACTACGAC | CTCGCCCTCA | CTCAAGCCCA | GGGCGTCTG | 360 |
| | GAACGCAATA | CTCGCTAGTG | CTAGTTCCCA | CCTAATATCT | ATCTCATCGC | CCATCGAGCA | 420 |
| | GCGGGCCAGC | TAAAAAATCA | CCACTGCGCG | CTCACCACGC | ACGGTTCACT | AAATACGAAA | 480 |
| 25 | CAGTTGTTCG | TCACGTGTTG | CTCACGTGAT | TTTACCCGGC | CCGTATAATA | TCGGGTTCTC | 540 |
| | AGCGCGCCGA | GCCAAGGACA | CTTCTGTAT | CATAACAAAC | CAGCACAGGC | GGTAGGAGCT | 600 |
| | ATCGGCAGAG | TCCCAATACC | CTTGCTACTG | TTGACATTAG | GTGGTTCAAA | TGAGTGTCTG | 660 |
| | TTTAGTTGGT | ACCAAGAGTG | TGGCGACAGC | CACATTGGGG | ATCTACACCG | GGATGGTGGT | 720 |
| | AACGCGGCAG | TTGGTCCCTC | | | | | |

1476RP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCGTATCG | CTAACTGTAA | TATCGAAAGA | AGCACAGACA | TCCCGGAAAA | ATGACATCTC | 60 |
| | AGTGACACTC | TTCAACAAAT | CATAAGAAGA | AAAGTATGTG | ACTAATGCTT | GCAGAAAAAT | 120 |
| 35 | AAATTGCTCG | CTACCAGTAA | GCGATGTTAG | TAGCGTGCCA | TGGCATTCAA | TAAATCGTAA | 180 |
| | GAGATACGTG | GGTGGTATCT | CGATGCTTTT | GAGGTACGCA | AAAATTGGGC | CATA TAAATC | 240 |
| | GATCTTGAAT | GGTAGCCTTT | TGCATATCGA | TTCTTCAAGA | AGTCTGTTTA | TAAGTTCTTT | 300 |
| | ATCAGAAATG | TGCATAGACT | GATGCAAGGAG | AGCACTTAGC | ACATGCCCTT | TATTCTTAGG | 360 |
| | ATAGAGCAAA | TATTCTTTGA | ACGAAGCTGG | GTCTTTCCGG | AAGTCAGGCT | TCATACCATA | 420 |
| | AAGGTACATG | TATACATTC | TGCGACATC | CATATCCTCA | ATACTGCTTT | CAAGCATCGC | 480 |
| 40 | AAGGTAAAT | TCGTAGGAAA | ATTCCGGTAC | CCAGGAATGC | TGTTGAAATT | GCGTCCAGAG | 540 |
| | TTTGATATGCT | GTCTTGGGGT | GGTTCTTG | GACGGCCAAC | AGGAAGTTGG | GACAGAACCA | 600 |
| | GCGTCTGACA | GGGAATCAAG | ACCATCTGTT | GAGCGAATTT | GCGTGAGAAG | GCGATCAAGC | 660 |
| | AGCTTCACAG | CAACTTCCAG | GGAATCTAAG | CTGACAAGCC | CAGCTAC | | |

1476UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGAAAC | TAACAACAGC | AGTGCGTGAA | CCAAGAGGCA | TTGGAGGCGT | ATGACGGCGT | 60 |
| | GTGCGAAGGC | AAGTACACTA | TGGGCTTGGG | CCAGACCAAC | ATGAGCTTTG | TGAACGACCG | 120 |
| | CGAGGACATC | TACTCGATGT | GTTTGACCGC | GTGCTCGAAC | TTGATGAAGA | ACTACGATAT | 180 |
| 50 | CAAGCCGGAA | AGCATCGGCC | GCCTCGAGGT | GGGTACGGAG | ACGTTGCTTG | ACAAGTCGAA | 240 |
| | GTCCGTGAAG | TCTATTTTGA | TGCAGTTGTT | CGGCGAGAAC | ACCGACTTGG | AGGGTGTGGA | 300 |
| | TACCGTGAAC | GCGTGCTATG | GCGGTACTAA | CGCGTTGTTT | AACTCCTTGA | ACTGGATTGA | 360 |
| | GTCCAGTTTC | TGGGACGGTC | GTGACGCAAT | CGTTGTTTGT | GGTGACATCG | CAATCTACGA | 420 |
| | CAAGGGTGCC | GCCCCGCCCA | CTGGCGGTGC | GGGAACGTGC | GCTCTCCTGA | TGGTCCAGA | 480 |
| | CGCCCCCAAT | GTCTTTGACT | CTGTGCGTGG | CTCGTACATG | GAGCACGTCT | ACGACTTCTA | 540 |
| 55 | CAAGCCTGAC | TTCCGCAATG | AGTATCCATA | CGTGGACGGC | CACCTCTCAC | TAACATGCTA | 600 |
| | CGTCAAGGGC | CGTCCGACCAG | GCTTACCGCG | CCTTA | | | |

1477RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTTGCG | AGGGACCACT | CTGCAATCCA | AGAAGACTAG | AGGAGTTGTC | TAGGACAACA | 60 |
| | AAGTTTATAA | GGAGACTTCT | GGTGTTTTAC | CGTCCTTTTC | GATACCGATT | CTCGACAGTA | 120 |
| 5 | TATTCAAAGG | CCAATAACGC | CAAAACAATAC | GTTAAAGTTG | GCTGCCAGTT | TTTCAACACA | 180 |
| | CTACTACAAC | ATTATGAGGG | CATAAAGGTG | CTTCTAGATG | ATAGCAAAT | CATTCTCAG | 240 |
| | CTCGCCAGTA | CTCTCTATAA | GGCTATGGAA | GGGCATATTT | TACCCAGTAA | GCTCTTCTCC | 300 |
| | TCTTGGGCTC | TCCAGAATAC | GTTATGTGGC | TCCTACTTCA | AATTCCCTCG | ATTGCTAATG | 360 |
| | AAATCTAAGG | AAGGAATCAA | TATATTAGAA | AAATGGAACA | TGTTCACTGT | CATCTATAAA | 420 |
| | ATGTTTCAGC | CATCACCCCT | AGCGGAAGAA | TATTTGTTAC | TCATGCTTCC | AGAGTTGGAC | 480 |
| 10 | CTCTCTCACA | GCATACATTG | TAGGATTATT | TTTAGCAAAG | CGCTAGTCGA | CAGTAGAGAA | 540 |
| | CTCATAAGGA | TCAATGCTAC | CAGGGTTTTA | GGCGAAATGA | TCAGCAGCGT | CAAATTATCT | 600 |
| | GATCCCACTC | TGGAAGAGTT | CATGTTAAAC | CTGTTGGTGC | CTCAGTTGTA | CGATTTATCG | 660 |
| | AGTGAAGTGG | TAGCAGTGGC | CGACCAGATA | CTGTACCATT | ACTGTTTAA | TCAAAGTAT | |

1477UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCGAATG | TCCTTAGTCT | GTGGGAAGGA | ACCGATGGTG | GTGGTTGGGA | ATAGCGGGAG | 60 |
| | CTTGAAAATT | GGCTGCTGCT | CCTTGAGACG | CTCCCCGAAT | GGTGCGGCTC | TCGTGGATAG | 120 |
| | CTTCTCGTTT | AAACCAGCAA | CACGTCCTGG | ACAGCAGGAT | CGTTGGTGAT | CGCAGAGGCG | 180 |
| 20 | GCACGCGCAG | CAATCGAGTC | TGCATTTGCC | TTCAACTCAG | AGGAAAAGTC | TTCCGCCAGAA | 240 |
| | GCGTCTTAG | CGAGTCAAC | AACCTCATGC | AGCTTCTGGG | TTGCAAAAGA | GAACCACTCC | 300 |
| | TTGATCTCTG | GCTCCAAGGC | AGACTCGTTT | TCCAAGTCAA | CTGGAGTGTG | CAACAAGGAA | 360 |
| | GAGGACGTGG | CAACAATAAC | GCGGTCCCCCT | CCTAGTTTCT | CAATTGCCCT | AGAAATAGTG | 420 |
| | GCAGCCGACT | TCGCGAAGTC | ATTCTTCCAG | ATGTTTCTAC | CGTCAACAAC | ACCTACAGAC | 480 |
| | AACGACTGGT | TTTCGCCAAC | GATCGCTAGA | ACGTCGTCCA | ACTGCTCTGG | GTTTCTCACC | 540 |
| 25 | AAGTCGAAAT | GTAGGCCAGC | CACCTGGAAG | TCCACAAGCG | CCTTCAAGTT | CGGAACGACT | 600 |
| | GTCCCGAAGT | AGGTGGTCAA | CACAATGTCT | AGAGACTTTT | CCGCACCTAT | ATGTTCATAA | 660 |
| | GCGGTCTTAA | ACGCAGACTG | TACGTCTCT | GCAAGATCTA | AGACCAACAC | AGGCTCATCC | 720 |
| | AGCTGA | | | | | | |

1478RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCATTATG | CATTTTATGA | TATACACTGC | TATCAAAGAC | GACCAGTCGG | TAGTGAATAC | 60 |
| | ACACCGGCTG | GCAGACACAA | CCAATGCCGA | GGATGAGGCT | AGTGAGGACG | AGTTAGAGGA | 120 |
| | GCTCGTTAGT | AGCACTGCAC | ACAGCGGCGA | TGCTACTAGC | GAGTGAAGAG | GTATTTTACC | 180 |
| 35 | TGAGCTTTGG | AATATATAGG | TAGGTGATGA | GCTTTACAAT | ACGTATTCCG | TAACAATGAA | 240 |
| | ATGCAGGAAC | TCCTCAAGCT | CTTTAAGTTC | TGTAAAAACG | GTATCAAAA | CCGTTTTTCC | 300 |
| | AGCGCTGTCT | CGCTAAATGA | CCTGGATTAT | CGCATTGCAA | TAGTTGCTGC | TCTTCAAGGT | 360 |
| | CAGATCTATG | ACGCCTTTTG | CGCGAGGCT | GGTACGCGAT | TCGCTGCGTG | GCATCGGGAG | 420 |
| | GATCTTGTC | AATAGGCCTA | TCTGTTTGTT | TAGGCTAGCG | ATGTTCCGCT | CACGAGCATG | 480 |
| | GAGCGTATCG | GGCTCGCTTC | GTTGTGGAAG | CAGCTCGATG | GACGAACCAG | GAACAATGTT | 540 |
| 40 | CAAGACGCAC | TCGTAAACAA | CTCTTTTAAC | CACCTGTAAG | TAGTTTCTAT | GCCTTATTCT | 600 |
| | ACCCAAAACA | GGTCTTAATA | GGAGAAGGTC | ACCATCAGCT | CTATATTTAT | GCTTGGGAAGT | 660 |
| | TGCTGGCTTG | AGGCC | | | | | |

1478UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGAGTA | TCAAGATACC | ATGAGCGATT | CTTGCTCACT | CTTGTAACGG | ACTGCCCCGC | 60 |
| | TTATCCAAGT | GCAGACAAGA | TGCAACATGC | ATACTGGCAG | ACCAGGCCCT | CTCGATCATC | 120 |
| | GAGTTGCTTT | AAGCAACATA | GTAGGAGGCT | TCGAAGGAGG | AGTTCTTCGG | CTACCTATGT | 180 |
| | AAGAGATGCA | GCGGATGGTT | ACTGCTGGTC | ACGTGCTAGA | ATCATATACC | ACGGAAAAGT | 240 |
| | GGATATGTTG | CTTGCCCTTT | AGATATGGCA | GTTTTGCCAC | CCTACTTGAC | ACAGCTGTAA | 300 |
| 50 | CAACGTTGAC | TAAGGATAAA | CAAGAGCTAC | TGTCAACGGG | CTATCCATAC | AATGACATCT | 360 |
| | GATCTAATGG | AGGTGGACTC | GGCCCATACA | CCGGATGTTT | ATAGCGCAAG | CAAGGACAAC | 420 |
| | GTTGACAAGT | TTGTGATCTT | GCTTCGCCAG | GTCTCCAAGA | CTACTATAAC | ATTGGACTCC | 480 |
| | CGTATGTTG | GGAAGTCTCT | TCGCGAGCTA | ATGTCTTTGC | GCAAGGAGCT | GCAGCAGCAG | 540 |
| | ACCCACCA | TCCTTATCAC | GCTCCTATAT | CCGGACGACT | CGGCATTCAA | GGTGCCATTG | 600 |
| | CTTCGTGTGG | TGAACCAGAA | CTCAAAAGCA | GCGTCGAGGA | TGCGGAGGCA | TTCCAGGGCA | 660 |
| 55 | AGTACCCCGC | AGACTTTATC | AGCTGACTGC | TGACGGCAAG | ATTGAC | | |

1479RP

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|----|------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCCGCTTA | CAGTAGCATT | GTCTCCGCAG | GTTGCCCTGCC | TCAATTTTAT | CCCGGCCCTC | 60 |
| | GAAGAACTCC | AACTCGAAGA | GGAAGTTTCGT | GCGGCACTGG | CATAAATTGT | CTATGCCAG | 120 |
| 5 | CCCTGTGG | CAGAACGCAT | GCTTGCACTC | TGCAAACTGC | TGCACCTCGA | ATTCCGGGAT | 180 |
| | CAAGAGCTGT | AGCTCCACGA | GCGCATCCTT | GGTAAGCCTG | CTGCCCTCCG | AGCGGTCGGC | 240 |
| | GCACCGTTTG | TCCGATGCATT | CGTTGATCTC | CTCTGTTAGG | TTGCCGCTCG | TCGTCCGGCA | 300 |
| | ATTCTCGAAA | AGCGTCCGGC | GCACTATCTC | CCTGCCCTGAA | GGCACCTTGT | TCTCCTTGTT | 360 |
| | CCGCTCGTCG | TTTTCGTAGG | GCGAGGTGAC | TGATGATGAA | TCATTTCATA | AGCTGTTTTT | 420 |
| | ATTCCGGAGG | CTGCCGCTTG | GCTGCACGTT | CACGTCAAAT | TGTTTCAACG | CCCTCTTATA | 480 |
| 10 | AGGTCTTTTC | TCCATTATTA | TAGCACTATG | CCAAGATCCA | GATGTGGCAA | TCTGGGATTA | 540 |
| | CTAGACCTGT | TGCGCCAGCA | TCCGAGTTCTC | TTATATACAC | TGGCAGTTTG | TGTCTGACAC | 600 |
| | AAAGACGTAA | AATTGGGACT | ACGAAAAGGG | AGTCGCCAAA | CAAGTGGCAA | ACGTTGTAAA | 660 |
| | AGGATAGTGT | ATATTTATAC | TATTAGTAAT | TATGT | | | |

1479UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGGGCA | TTACGGTGCC | CATCTACGAG | GAGGACATTG | TCGGGGACCA | GGGCGGGACG | 60 |
| | GACGTAGACG | GGCAGCCGCA | GAAGCTGGGT | TCGTACCGGG | CGCGGGCCGG | GCGCTTCTCG | 120 |
| | AACACGCTGT | CCAACTGTCT | TCCCAGTATC | AGCGCGAAGC | TGCACCAACA | CCGGAAGGGC | 180 |
| 20 | GGGACGGGGA | AAGTCCGCC | GCTGTGCTCG | GACGCGGACG | CGGGAGCCGG | GTCTACCGTG | 240 |
| | GTTGCGGGAG | AGATGGCGGG | CAGCATCACG | CCTCCGCAGG | ACCTACATAA | CGTGGTCAGC | 300 |
| | TTCCCGGAGC | CATACGGGCT | TGCACAGCCA | CGCACTTCGA | GCGAATCGTA | TACGTATGGT | 360 |
| | TCTGGATACA | GTGGCCACCT | GCAGCCCA | GTCTCCAACC | CTGCTACGCG | GACTCGGAAT | 420 |
| | AATACTGTAT | CTTCGCAGAT | TACTTCGCTT | TCAAGCATGG | GCCAGCTGGG | AACCCCGAGC | 480 |
| | ACGAGCAACA | TCTGGACCAA | CAATGGCTCA | AGCCCGGCAG | ATCCAATCAG | CAACATGCTC | 540 |
| 25 | ACGACGCAGT | TCAACCCGAT | CCCCCTCCCC | GACTTTGGCC | AGTCGAACCTA | CTACGACGTA | 600 |
| | ATCACGCAGC | AGCAGCCTCC | GCAGTCGACG | AACTCACTGA | ATGTGCCCTC | CGGGGGTAAT | 660 |
| | ATTTCTGGGA | AAAACGTACT | CGTCTCAAT | CTAATGCTTC | TAGCATATAC | GCAGAT | |

1480RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCTCTGA | GGCGAGCCCT | ATCCCAAGTT | TATTCCAACT | TCTTGCCGAA | AGGTAACAAA | 60 |
| | CCGTTTATTT | ACATGAGTTT | ACACATAACA | CCGGAGAATG | TTGATGTTAA | TGTGCATCCT | 120 |
| | ACAAAGCGTG | AAGTACGATT | TTTGATGAA | GAAGAGCTAA | TAGAGCGCAT | TGGTAATTTG | 180 |
| | CTCCATGAGC | GGTTATCTCA | GCTGGATACT | TCGCGAACTT | TTAAACCGGG | CTCTTTGACA | 240 |
| | CCTGGGAAAC | ATAGTTCAAC | TGTGTCTCTC | GCATTCCGGC | AATCAGCGAC | CCCCGCAAGT | 300 |
| 35 | ACACAACCAA | AGGCAAAACG | TGCAGAAAAC | ATGCTTGTCA | GGACTGATGG | TAGCCCAAGCT | 360 |
| | AAAATTACTA | ATTATGTCAG | AGCAAGTCAA | AGCTCTACCA | GCTCATCCTT | TTCCACTTCT | 420 |
| | TTAAGAAAGA | AATCACATGC | GGCAGCAAGT | GATGAACTTG | GCAGCATTTG | CGAGGACTCC | 480 |
| | CAAGATACAG | CAACATCGAT | GACAACCTCT | ACACAAGAGC | CTAATCATA | CAAGTCTAGA | 540 |
| | GCCATTTTAA | CCTTATTGAA | TAATGAGTAT | GAAGTCGTAC | AGCGGGAAAG | AACCGGAAGTA | 600 |
| | AATCTCACCA | GCATCAAAAC | TCTAAAGCAG | GAAGTAGACG | AAGATATGCA | TAAGGGAATT | 660 |
| 40 | AACAAGTGTC | TTTGCAGATA | TGACCTATGT | TGGTGTGCTT | GATGCAACAA | GGCGACTTGC | 720 |
| | ATCTATACAG | CATGGTTTAA | AGTTATTT | | | | |

1480UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCGCGTCA | TGGGATACAT | AAACCACGGA | ATCAATGAAA | AGCTCGCTTA | CGAACAGTTT | 60 |
| | GGATCTGTAC | CGGAGAAGGG | CTACTATATT | CCTCCACAAA | TATTTCTGGA | CGTTCCCTCAG | 120 |
| | AGCTCGAGAC | TCTGCCGTGA | AGAGATATTC | GGCCCTGTGG | CCGTAGTTGC | GAAATTCAAG | 180 |
| | GACTACGATG | AAGCTATTCC | TTACGCTAAT | GACACTAAT | ATGGGCTGGC | ATCCTGCGTT | 240 |
| | TTCACTGAAA | ACATACGCGT | TGCGCACCGC | TTTGTCCGTG | ATGTCCAATC | TGGCACTGTG | 300 |
| 50 | TGGGTTAATT | CCTCTAATGA | TGAGGAGGTG | GGAGTGCCCT | TTGGCGGGTT | CAAGATGAGC | 360 |
| | GGTATCGGAA | GGGAGCTGGG | GAAGGCAGGC | CTGCAACTT | ACCTCCAGAC | TAAAGCAGTA | 420 |
| | CACCTGAACT | TTGCTTAGAT | AGAGCAACTC | ATATATTAGA | ATCACTTCAT | ACATCAACTA | 480 |
| | TATATCATTA | TGTATATGAC | TATGCCAGAG | GTGTAGTGGA | ACCACTATTT | ATCACGTGAT | 540 |
| | AGGCGTTGCG | CGGTCAATCC | GCCAGTACCT | GCGTTGCAGA | ACGCGGGCGA | CACATTCAGC | 600 |
| | AGGTGCTATA | TACAGTTGTC | GAGGACAGTA | TGGCACCGCA | TACCAATTATA | GCAAGTAAGC | 660 |
| 55 | CGTGTGCTGT | TTGCATAAAG | CGTAAGGTCA | AGTCCGACCG | GCTGGTTCCC | TGCACGAACT | 720 |

GTGTCAA

1482RP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCCATTG | TTAATATGGA | TTGTCTACAG | TGAGAGCAAA | GAGGGCGGGG | GATTTAAAGC | 60 |
| | ATGGTGGGGC | GACGCCTATT | TTAAATGGGG | GTTGTTTGCA | ACGGTTTTTG | CCGGGCTTCT | 120 |
| 5 | TGTCCTGCAT | AGTGAAAAGT | TCATTTCGCCA | AAGAACGTAC | GAATTCTTTC | TGATACTGCA | 180 |
| | CAAGCTCTTC | AACATTGTCT | TTATTGTATG | CATGTATATG | CACATCAAAA | CGCTGGGATG | 240 |
| | GCACGGCTGG | GTCCTGGTCGA | TGGTTGCCAT | CTACTGCTTC | GAGCGTGTGG | CCCGGATAGC | 300 |
| | TCGCATTGTA | CTTGCTGGAG | GCATCAAGAA | GGCCACATTA | ACAGATGTTG | GGGATCGCGT | 360 |
| | GCTCAAGATG | ACAGTGGAGA | AGCCAAAGCA | TTTCAAATAT | TACCCGGGGG | CTTATGTTTT | 420 |
| | CGTTTTATTTT | ATTAGTGGGA | AGGATGCTTG | GTTCTATCCA | TTCCAGTCGC | ACCCGTTTAC | 480 |
| 10 | CGTCCTTAAT | ACACCCAAGA | TCGATGGCGA | CAACCTGGTG | ATTTATTTCA | AAGTGCACAA | 540 |
| | GGGCGTGACG | CAGCAGCTGC | TAAACAGGAT | CTTTCTATCC | GGGAAAGAGT | CCATCGAATA | 600 |
| | CAAGGTGCTT | CTAGAAGGGC | CCTATGGAAA | CACCATTCGG | CGGCTTGCTG | CTCCTGACCG | 660 |
| | GCGCTACGTG | GGCGCCAGCG | CAGGTCTTGG | CGTA | | | |

15 1482UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCGCGCGG | TTCCGGCGCGG | TGGCGCCAAA | GCTGAACCGG | TCCGCGCCGA | AGGATGCGAT | 60 |
| | GTGGCGGGCTG | CGGAATTACT | CGATGAAGTG | CAATGAGGCC | AACGATGTGT | ATCTGCTGCT | 120 |
| | GAACGGGTCC | AGCCACGTAG | CCTGCGACGT | GAGCGACACA | CTTCTCGATT | GGTTGGCCAG | 180 |
| 20 | CACCGAGGAT | GAGCCGGTGA | TGGAGCTGGT | GCTGCGAGAG | TGGCTCGACG | TGAACCCGGC | 240 |
| | GCTGGAGTTC | CGCGTGTTTG | TACGAGGTGG | GGAGGTCTTG | GGCGCGTGCC | AGCGGGACCT | 300 |
| | GAAC TACTAT | GACTACCTGA | AGCCGCTGGA | GGAGAAGCTG | AGGACGGCCA | TTGAAGACTT | 360 |
| | CGTGCAACGAC | GTGATGCTGC | AGCGGCTCCC | GGACGACACC | TTTGTTGCGG | ACGTGTACAT | 420 |
| | CCCGCGGGCG | TTACAAAGG | TCTGGCTGAT | CGACGTGAAC | CCGTTTGCGC | GGGAGACGGA | 480 |
| | CCCGCTGCTG | TTTTCATGGA | ACGAGCTGTG | CACCTGAAGC | CCAACGCCGA | AGGGCACCGG | 540 |
| | AGCTGCGCCT | GGTTGCGGAA | AACTACATCG | GTCGCTTCGC | GGAAAACAAC | ATCGGTGCGT | 600 |
| 25 | TCGCAGCGAA | AGGAGCACTC | GGAACACCAG | GTACCTCTGG | ACGTGGTCEA | GGCAGGGCTC | 660 |
| | AATCCGCAAA | GCATGCAGAA | GCTGGTTGAG | A | | | |

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1483RP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCCAAAAA | ACCTCTWAAG | GTACAGTCTC | TAATTGCTTC | CATSTCTTTT | TGAACATACA | 60 |
| 5 | TGGACCATGC | ATCCTCGTTC | TTGTTACGGA | CAGAATCCTG | YAATGCAGCA | ATGGCACTTG | 120 |
| | GCTCGTTGAC | GTGCTTATAA | CCACCATCCC | TCCAATGGTA | TTCCGCGGCT | TCAGGCAAGT | 180 |
| | TGACAGATCT | CTTAATCKTA | AACCTCGATG | GATAMCCGCG | CTCGTGCAAT | GAAAAGGCGT | 240 |
| | CTTGSGCAAT | GTATTCAAAG | GTAACACCCCT | TAATTCTAGA | AGCGGTTCGG | GCAAAACACA | 300 |
| | AATCAATCAC | TGAGTTATCA | ATACCTAAAG | CTTCAAATAT | CTGCGCTCCC | TTGTAAGATG | 360 |
| | CCAGAGTAGA | GATACCCATC | TTGACATGA | CTTTTAGTAT | ACCGCCGTCA | ATTGCTTCCT | 420 |
| 10 | TGTAATTATG | CAACAGTTGC | TCATCTGTAA | TATCAGAGTA | GTATCGTTA | ACATTCCGAA | 480 |
| | CTAAACCTTC | GTTATTCAAT | CTGACCAGGG | TTTCCATCGC | TAAGTAAGGG | AAAATACCGT | 540 |
| | CACACCCATA | GCCAAGAAGA | ACACAGAACT | GGTGAAC TTC | G | | |

1483UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCAGC | CCCGCTGCTC | CGCCGCAGTA | ACGGCTCCAC | GTCGTAGTCT | GGCGTCCCTG | 60 |
| 15 | CTAGTCCGTG | GCTCATCGAG | AGGTCTCTTT | CCTCAGGCTC | GGAGTTGGCC | ACGGAGGCAC | 120 |
| | TTGAAAGACT | CTGTCTTCGA | TTCAATCCCC | CCGCCCGTA | TTCTCGCCC | TCGTGGCGTG | 180 |
| | GCTTGGTGAG | GCCCTCCCGC | TGCAGATCTT | CAACGTCATC | CTTCAGCTCC | TGGAAGTTGG | 240 |
| 20 | CAAGAATTCC | GGTTCCTGA | GAGACATAGA | ATTTGTCAAT | TCCGCTCAGC | TCCTTATCCA | 300 |
| | CGCCCGCAAT | GAATCTTTCC | ATGTAGCTCT | GTGCAAGCGG | CACCGCTCG | GGGTCTCTGT | 360 |
| | CAAACGTCTC | ATGCTGGTAC | AGCTTGCTTT | TCTGCAGTGT | GTACACGAGC | TTCTTCAACT | 420 |
| | GCGAGTACGC | GATATACTTC | GACGAACACT | CAGGGACCGC | GTTGAATTGC | AGCGAATGTG | 480 |
| | AGAACTTCAT | CTTGGCTTCT | ATCGCCTAAC | GGCCCTGGTC | CGTCGCGATA | CAGGTCTGTC | 540 |
| | TCATTGAAAG | TACGCAGCGC | AGGCATAGGT | TTAATTCCAG | GCTCCCAGGA | GATTTTCGTG | 600 |
| 25 | CAAGAGGACG | TTTTAATTCT | CATTATATCA | CGTGCCCTGG | CTATATTTAT | AAAGTTGCCT | 660 |
| | CTAACGGG | | | | | | |

1484RP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| 30 | GATCCTCTTC | TATAACTCAA | TTAACAATGT | TTCTCTCTGT | GGAGTCGTTC | CTGCATCTTC | 60 |
| | CGTAACCCCT | TCATTCTGAG | GTGTAGCCAT | TTTTATCTTC | TGCGCTGGAA | CACTCGGGAA | 120 |
| | TTCAAATTGA | GTTATTGGCA | CCTGTGCCTC | CTTCTCCTTG | TCCGGTATAC | TTTCTTCAGG | 180 |
| | AGGATAAAGA | GGCTCCGATG | GTGATGATAG | CAGTGTTTTC | TTAATATCCG | GTTCTGAGAC | 240 |
| | CTGCGGCTCA | AAGCCAGTTA | CTGATTCGCA | CTGGCGATTTC | TCCATCGGCG | AACTTTGTGT | 300 |
| 35 | GGTATGTAGG | ATTGCTGGAG | TGAGTTCTGC | AGCGTTGGAA | GAGCTCCTGG | CATAGCTACG | 360 |
| | ATATGTTGGC | TCAGGTTGCG | TCTTCTCGTA | CGGAACAGTG | TTGGCTGGAG | AGGACTCTGG | 420 |
| | TTGTCCGTGC | ATTTGATAAG | TGTATGGATC | AGAAGGTAAG | TGTGGCATGG | AATATTGTTG | 480 |
| | CGAAAGATTA | ATATTCCTCA | ATTGTCTCTC | TAACATGGTG | TCATAAATGC | TCATTATATC | 540 |
| | CGAAATTTTG | GCATTCAATG | CTACCAAGGT | ATTATATTTG | TGAAACGTAT | CGTTAAGGGA | 600 |
| | ATGGTTTAAC | CGAGGCCGAG | TTCCAAGGAC | CTTCTGGTAT | AGCATCTGCA | GCTGTGTATC | 660 |
| 40 | CTCTAACACG | GCATTCAATTG | GCTGACCCTT | CCTCTTCCTC | CACTAGG | | |

1484UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| 45 | GATCTCGGAG | AACGTGCTAC | AACACTCGTG | CCGGGTCAAG | CCGGACCCGA | AGCTGATCGA | 60 |
| | CCAGCAGCCG | GAGATGAACC | CCCAGCACAC | GCGGACTGCG | ATCGTGAACT | TTGCGTTCTGA | 120 |
| | GCTGGCGCAG | AAGACGCGGG | TGACGAACGG | GATCTTTTTC | CACGCGGTGC | GGTTGTACGA | 180 |
| | CCGTTACTGC | TGGAAGCCGG | TGGTGCTACG | GGACCAGGCG | AAGCTGGTGA | TTGCGACCTG | 240 |
| | CTGTGTGGCTG | GCGGCGAATA | CGTGGGGGGG | GTGCAACCAC | ATCATCAACA | ACGTGACGGT | 300 |
| | GCCTACGGGT | GGGCGCTTCT | ACGGGCCCAA | CCCGCGGGCG | CGCATCCCGC | GTCTGTCCGA | 360 |
| | GCTGGTGCAC | TACTGCGGGG | GGTCGAACGT | GTTTGAACGAG | TCGATGTTCA | CGCAGATGGA | 420 |
| 50 | GCGCCACATC | CTGGACACGC | TGAGCTGGGA | CGTGTACGAG | CCGATGGTGA | ACGACTACGT | 480 |
| | GCTCAACGTG | GACGAGAACT | GTTTGATACA | GTACGAGCTA | TACAAAAGGC | ACGTGGAGCA | 540 |
| | CAATCGGCAG | TACGCCAACA | AGCGCAACTC | GCAGGACAGC | AACGCGACCG | AGGAGGACGT | 600 |
| | GTCCGAGGAG | GACGAGGACC | TGGATAACAA | GATCCAGTTA | ATCAACATCA | AGAAGTTTCT | 660 |
| | GATAGACCTG | GCCGTCTGGC | AGTACGACCT | CTTGAAGTAT | GAGGTATTCC | GAGCTA | |

1485RP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCCCCCG | TTATTAGCAC | GGTGCCCTTAA | CCAAGTGGGC | CAAGGAACCA | ATTACACTTA | 60 |
| 5 | AGATGCTATT | TGCAGATATT | TGTAGTCCAC | TCAAAGTCAAC | ACGGGCATAT | TTTACTTTCT | 120 |
| | AATTCTTAAA | TTCTTAACTC | TAAGCCAATC | TAAGTAGTTT | ATCCTATCAT | CACTTGATCC | 180 |
| | TTGCGTTTGT | TTGGTCTATA | ACCTTTAATT | GGGTAGTGT | TATGGAAATA | TATATAATGA | 240 |
| | GATATTACAT | GGGTCCCAT | TAAGTCCGT | ATGAGAGTTT | GGCCGAGTGG | TTTAAGGCGT | 300 |
| | CAGATTTAGG | TTATTCTCCT | AAAATCTCTG | ATATCTACGG | ATTCGCGGGT | TCGAATCCCG | 360 |
| | TAGCTCTCAT | TATTTTGT | ATATTGTCTT | TCTCAGGCAT | GTGACATTTT | GCATCATAAT | 420 |
| 10 | CATACCGAAG | ATATGGCTCC | CACCGTGACC | TGATACATTC | TCGCATCTGA | AGGCATGCAA | 480 |
| | TTTAATGCAA | CTGTGGCTGC | AGATGCTCTA | GGTAGGAACT | AGCACAACAT | CTAACAACCTA | 540 |
| | GCTGCGCAT | TACAGCGCAA | TGACAGCGTC | TGAGTCGTTG | TGGCACCAGT | CATAAGCCAA | 600 |
| | TTCTGATTGT | CTGAAGACAG | GCTATGAGTC | TCCCACAGTC | CTCCTTGCTG | TCCCATACGC | 660 |
| | ATATAAATAC | CCTTAAAACT | CAATTAGCCG | GTATTTTATT | TGAGCTGCAG | AAGGTATCTT | 720 |
| | AACTCAGGTA | TAATATACTG | TAATGGGG | | | | |

1485UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGGAGGT | AGTGTTTTCG | GTGGGCACGG | AGCTGTAGCA | CGCGGGGTCC | AAGAGCGGCA | 60 |
| 20 | TTGTGCTGTG | TATGTTGGTG | ATGACCTCGA | TGAGCTGCTT | GCGGAGGTGC | TCCACGTAAT | 120 |
| | CTTCGGTGCG | GAGCCCAT | TCCTTCGGGT | CGCGGAAAT | GGTTGCCAAG | TACTCGAGCT | 180 |
| | CTGCGAGAC | CTTCTGTAT | TCTAGCTCGC | GGTTCAAGCA | GACGATGGCG | TTGCGCTGAA | 240 |
| | GGATCGTGAG | CTCGTCGAGC | ACGTCAACGA | GGTCGTCGAA | TTGTGGCACC | GCGCTCAGCG | 300 |
| | CGCCGTCGAT | CGCCTTAAAC | AAGGCGCGCC | GGGCCTTCAG | GGCCTGTCCA | CTAAAGAGAT | 360 |
| | CACGCGCTC | GAAAATGCTG | ATTGCCTCGC | CACATGTACGG | CACAAGCTGG | CGCGACCGA | 420 |
| 25 | ACAGATAGCT | CATGTGCGCG | GAGTTCGACG | TCACGCTAAC | TGCCGAGTGC | TTGGTTGAGT | 480 |
| | GGCTGAAGGG | CCTACTGCCC | CGGTAGGGCG | ACCCGAGAAA | TGCGTCATCA | CCTCGTCTTC | 540 |
| | ATCTGGCTTG | AGATACAAAT | CCGAAAGCGG | CACGTTGCCT | GTCATCGCAG | AGTTGTTTGA | 600 |
| | CAAGAGCAGC | TCGTCTAGTC | GCTGCTGGAG | CTGGCCCACT | TTGCTTTTGA | GTAGTTCCAC | 660 |
| | TTCACTGCCC | TTTTCGGATA | GCATGAGCTG | CAAGTGGCAG | TTCTCGTTTT | GCAACGCCAG | 720 |
| | CACCTCATCG | GGCGCGGTAC | CGCTGCTCTT | GCAGA | | | |

1486RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCTTCTT | GTACATTTCT | GATTTTAAAC | ATGTCTTCAT | AGCGTATATT | TTACCGGTAT | 60 |
| 35 | CTTTCTTCTG | CACCAGACGG | ACCTCACCGA | ATGCACCCTT | TCCTATGACT | TTAACAGTGT | 120 |
| | GGAAATCTTC | CAGGGATAGC | CGTGCTCTAC | GCAAGCGCAG | AAACTGCGAC | TCCTTTTTTAC | 180 |
| | CCAGTGAAGA | AAGCTGTCTG | TTCTTTCTCT | CTTCAGACCA | GCCATGAGAT | AATAGCTGGG | 240 |
| | ATTCAAGTTC | CACGCGTCTT | TGGTTCGCT | CAATGGCATG | ATTGACAGAT | GATTGGTAGA | 300 |
| | AATTCTCGAC | TTTCAGCTTC | ACTGCAGCCG | CTTTTTCTTG | TGTGGATTTG | CTCAGTAGCT | 360 |
| | CTGGACGTCT | CTCGAAGTAC | ATATAGTTCC | CCACTCCCAG | GGTTTGCCGT | TGGCCCCCAT | 420 |
| | TGGGCGATTG | TGGAACGAA | GAGCACTGCA | GGGACTGACG | GGATAGCATA | GCGCCCTGCG | 480 |
| 40 | AGCTCTGGTT | TCCCCTAGC | GTCTGATCGC | CAAGGCTTCC | GTCTAGTAGT | CCAGGTAGAG | 540 |
| | CTGCAGGCTG | TAAAGGGGAC | TCCGACCCCC | CAAACTGTTT | ATACGCAGAG | GAAGCAGGCT | 600 |
| | GCTGCCCAC | GTAGTCCGAG | CTGTTGGAGT | AGTGTCTCTG | TGAAGAATGG | CCGGGGGCAA | 660 |
| | GAGTAGTGTC | GTTACAGTTC | CGTAAAGAG | TTGTTGTTCT | GGCTGTAAAT | GCTGGTCGCC | 720 |
| | GTAGGCGGG | | | | | | |

1486UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAAAACA | GCATGTCTAA | GTCTGTTGCG | CGCTGCCCGC | AGTGCCACAC | GGAAGTGGT | 60 |
| 50 | AAGTGCCCTCA | TACAGCAGAA | CTACAGCATC | GTGATTTGCC | CGAAGCAGCA | GTGCATGTAT | 120 |
| | CCGTTCAATG | AGGCCGAGGT | GATCCAGCAC | CTGGTGACAG | CAAGTGACAA | GGAAATCCTG | 180 |
| | GAGGCTGCAA | AGGTGCGGCT | GAAAAACGAT | AATATCACAG | GCAGCGGAGG | CGCGCTCATG | 240 |
| | GAATAAGGAA | CCAAACCGT | GCTATATACG | TGTACTGTCT | ATGTTAAGTA | GGTCTCGTGC | 300 |
| | GCCGCGAGCC | CTOCGTGGCT | AAAGCTTTAG | ATTGGAGTTG | TACATGATGT | CGCCATCGAC | 360 |
| | GCTGATGCTG | CAAGTGAAC | CTCGGTGGAT | GTGCTGACG | ATGTCCACG | TTTATATAT | 420 |
| | CATCATCAAC | GCGAACACAT | TGCAATGCT | GCCGATGAAC | AACCCGTGCA | GCTAGTCTT | 480 |
| 55 | GACGCCCTCG | CAGATCTCGT | ACGAGATGGT | ATACATCAAC | ACCTGCCCGG | TAGTTATAAA | 540 |
| | AATGACACCC | AAAATGGTGC | ACCTGTCTAT | CCAGAGTTG | GAGAGCACGA | AGATGGAGAC | 600 |

CACGAGCTGG CACACCGAGT ACATTAGGAA CGCGAGGCCA TTGAGGCCGT ACATTACAAC
 GAAAAGGCGG TCGTGTTTGT TTTCATGTG GGGTGGTGCT GAATCCAATT TGGTGAAGG

660

1487RP

GATCGAGCGC GAGCCCATCA ACAACGAGGA GTTTCGCTAC CAGCAGGAGC TGATACGAAA 60
 GCGGGACGAG GAGATAGCCA ACATCGAGCG TGGTATCGTT GAACTCAACG AGGTCTTCCA 120
 AGACTTGGGG TCCATCGTGC AGCAGCAGAG CGAGCTGGTA GACCACATAG AAAACAACAT 180
 10 ATACACTGCG GTAACCAGCA CGAACCATGC ATCTAACGAA CTGTGCGCGC CACTGAGATA 240
 CCAGCGGCGT TCCAACAGGT GGTGCCTATA TCTGCTTCTC GCTCTGCTGG CATTGCTCTT 300
 CCTGATCGGG GTGACAGTGC TTTAGAACAT CTCAACTAGT CTACTATGTA ACGCTTTAAT 360
 TAGCTACTGG CTGACCTACT CCTCCCGCAG TTCCACGAGC CGTCAATCGCC 420
 GCCGGTCAAC AAAAGAACGC GCCCGTCTAA CGCCAGCCAT TTCACCACAT TGATCTCGTA 480
 GACCGTGTGC GCGCAATCTA CGCGGGCTAC CACTTCCAC CGGCCAGCCT GTACCTCTTT 540
 15 GTATACCGCC AACACACCAT CCGAGCCAAC GCTCGCGATA AGCCCGTCCG CGCTCCAAT 600
 TACGCTGTAC ACAGCCCGCG TATGCACGGC CGGCAGGACC GTCTCTTGGA TCCACTCTTT 660
 GTCGAAGACG TCGGCGTCGT CAGTGAGGCA CCGCCAGATG CGC

1487UP

GATCCCAATA CTGGGACTTT ACTAATACCA GCCATGCGGG CAGCTCTGCA GCAGCTGGTA 60
 ATGACAAGGA GGACAAGAAG AACAAATACT GGAACGCAGA CGCCGAGTAT CTGATCGAAG 120
 AGGTGAAGAA AAACAAAAAG AGTGTAGTAA ACTACCTTGA ATCGAAGACG AACGACGAAA 180
 TGACCCGCAA GGGTCTGATC CGGAACCTGC AACGATTGTC AAGACAATT CTAATGAAGG 240
 25 AAGGGTTTGA AAACCTGGAG GATATCGTCA CGCTTTCTCA TTTGGAAAAT AGACTGCTGG 300
 TAGCCCTAAA ACTTAACGAG ACAAAATGAT TTACCAAATT ATTGAAAGTC TATTGCATCA 360
 GCCTAGCAGA AATGGGCTTC AAAAAATAGAT TGGATGATGT GCTGAGCTGG CTGTATAACG 420
 ATGGAGAATA CAAGGTTGGC ACAATAGCTA ACGAGAAGCG GGAGGAACTG CTGAAGCAGA 480
 TATTGGTTGC ATGTGCTGAT ATCCGGCAGG TCCAAAGAGT GACAACCAGT TACGCATCTG 540
 CTCTTGGTCT TCTTGATGTA TCTTTATAAT TATTGCTAGT CTATAGACAA AGTTGGGAAT 600
 30 CTGAATATAA CT

1488RP

GATCAACAAA TGATTTTCCT ATTTTCCGCG CACCGATCAA CGAGATATCA TAGGAATCAA 60
 TGTTCGAGGC AAATCCCTCA CCGAGTATGA AGCTCTGGTA TGCTGTTGGC GTTGTTCCTT 120
 TCATTAACTG CCGGTCCCTG GGCAGTTCCC TTAAGTTTGG ATGATCGAGA TATCCACAAT 180
 TTGGCTCAAT CATCGTCTCC AATCCAATGA TGCAGTTTTC TTCCAACAAC TCAGGCGCGT 240
 TGTCCTGAAT GTACTTGTAG AACGTCATTA CGGCTTTCAA GAAGTGCCCC TGGAGGTAGT 300
 40 CTTGAATATT TCTACCATTA ATTACACATT TAGGGGCAAA TAACCTGCCG CTAATAAAGA 360
 GAGTGAACAT AGTCTGGCAG GCTAGGCGGT AATAGTTTGT GGACCAAATC ATTTCTGGAT 420
 ACTGTGCTTT TTCCGCTGTC GTCTCTGAAT CGATATAGTA GTTGTGCAAT ATGGCAGCCT 480
 CAGTAGCTAG GAACTCTTC GGCTGAAAGC CTGCGCAATG CAACGTCCAT AATGGCGCTC 540
 CTGATCCCC AGAAAAGCGA GACCACACGT CCTGGTGGGG GTCTAGGTAT ACGTACATGC 600
 CGCCCGCCTC CTTGATCTTT TTAAGCACCA TCACCGTGTA CTTCATGTAT TCCTCATCGT 660
 ATATCCCTGG GCCGCCATGC TCCAAGGCCT CCCAGGTGAA CAAATAACGG ATACA

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GATCTCGTTT AAGCTGCTGG TGAAGTTTGC GAAGGGGTAT GAGCTTTCAC GACGCGAAAC 60
 AAACCAGCTG AAGCGGTCTA TGGGCGATGT CTTCCGGTTG GTGCCCTTTT CTGCCCTTCT 120
 50 GATTATTCCG TTTCAGAGT TGTGTCTGCC CTTCCGCGCTT AAGCTTTTCC CCAACATGCT 180
 GCCATCCACA TATGTTTCTG GGACGGAGAG ACAACAGAAG AGAGTTAAGC TAGAGGAGGT 240
 GCGGCGCAAG ACGTCCAAT TTTTCAGAG GACACTAGAG GAGTCCTCAT TGATCAATTA 300
 TAACTCGGTA GAAGGTTTCA AGAAGCGCAA AAAGTTTCTG AGCTTCTTCC AGAAGGTGAA 360
 CTCCCTTAAG GATGGCAAGA CCAGTGTTTT TACCCATGAA GAGATTTTGT CCATCTCCAA 420
 AATGTTCAAG AACGACACTG TGCTAGACAA TCTCTCCAGG CCGCAATTGG TTGCCATGGC 480
 55 GAAGTATATG TCCTTCCGGC CTTTGGCAC TGACAACATG CTTAGGTACC AAATCCGTTA 540
 TAAATTGAAG AGCATCGTGG AAGACGATAA GAAGATAGAC TACGAAGGTG TTGAGTCACT 600
 GAGTACAGAG GAGCTCTATA GTGCCGCCG TTCGCGCGGG ATCAAAGCCT TCGGTGTTTC 660
 TAGGGAAGAT TTGGTGGAAT AAAT

1489RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCACGCCG | GAGCACGTGC | AATCATTGAA | CGAAAGCCCG | GGGTTGCTTG | CTTTGGCGAT | 60 |
| | GGAGAGTCAC | AGGGACCCAA | TTACCGGTGA | GAGTACATTG | GTTGGTTTTT | CCTACGTTGT | 120 |
| 5 | TCCGGGCGGT | CGTTTTAATG | AACCTTACGG | CTGGGACTCA | TACCTAATGG | CTTTGGGTCT | 180 |
| | TCTAGACTGT | AACAAAGTGG | ACATAGCACG | TGGGATGGTT | GAGCATTTC | TCTTTGAGAT | 240 |
| | AGAGCATTAC | GGTAAAATAT | TGAACCCAA | TAGGAGCTAC | TACCTCTGTC | GGTCACAACC | 300 |
| | CCCGTTCCCTA | ACCGACATGG | CTTTGAAGGT | CTTCGAAAAG | TTCGGTGGTG | ACCAAAATCC | 360 |
| | TACCGCTGTG | GATTTCTTGA | AAAGAGCATT | CATCGCAGCC | ATTAAGGAAT | ACAAGAGTGT | 420 |
| | ATGGATGGCA | GAACCGCGGT | ACGACAAAAC | CACGGGTCTT | TCATGTTATC | ATCCAGATGG | 480 |
| 10 | TATCGGTTTC | CCACCAGAAA | CCGAGCCTGA | CCACTTTGAC | GCAATTTGCC | GGAAATTTGC | 540 |
| | GGAAAAGCAC | AATGTAACGA | TTCCGGAGTT | CAGGTGCATG | TACGATGCCG | GCGAAGTACA | 600 |
| | CGAGCCCGAA | CTAGATGAGT | TCTTTTTCGA | TGATCGTGCT | GTACGTGAGA | GTGGACATGA | 660 |
| | CACCTCTTAC | CGTCTAGAGA | ACGTCTGTGC | TTACTTAGCG | ACGATTGATT | TGAATCGTTA | 720 |
| | CTATACAA | | | | | | |

1489UP

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|----|------------|------------|--------------|------------|------------|------------|-----|
| | GATCGTAACA | TTGCCCAATA | GCTTGTTTGTAG | CTCGTCATCG | TTTCTGATGG | CTAGCTGTAG | 60 |
| | ATGTCTTGGG | ATGATTCTGG | TCTTCTTGTT | GTCTCTGGCG | GCGTTACCGG | CCAACCTTAG | 120 |
| 20 | GATTTCCGGC | GCCAAGTATT | CTAGCACAGC | GGTTAGGTAC | ACAGGCGCGC | CCGACCCGAT | 180 |
| | TCTCTGTGCG | TAGTTGCCCT | TCTTGAGCAA | TCTGTGGACT | CTACCGACAG | GGAAAGTCAA | 240 |
| | ACCGGCCTTA | GCCGATCTCG | ACTGCGAAGC | CTTGGCGGCA | GAACCAGCTT | TACCTCCPTT | 300 |
| | ACCAGACATT | ATTTGTGTTG | TGTGTGTGTG | TGTGTGTTTA | GTGTGAACTG | CGTGTGGTAT | 360 |
| | GAGAAAACAC | TACGCTGAAA | CTGCTAAATA | ATCCAGACAG | GTCCCCCAC | CGCAAAGGAT | 420 |
| | CCACGCTATA | CTTCTCTCTA | CATATTTATA | CTTGTCCTTT | TGCCTTCTAA | TECTCGATCG | 480 |
| | TACGCGTCTG | ACGCTTCAAC | AGACCTTCAC | TAGACGCTCG | ACCTGTGCGG | GCTGGTTTTT | 540 |
| 25 | TGCGATGACA | TGTCCGTGCT | GGTTTTTTCG | CGCTGAAAAG | GAAAGCGCGT | GGCTCCGAGC | 600 |
| | ACCAGAGCCG | TACTAGCTCT | TTCCGCTTGC | TGTCCTATGT | GCACGCGAAA | TTTCATACTG | 660 |
| | TAGAGTGTGC | CATCAGCTTC | ACAGAGTACA | ACGGTAGG | | | |

1490RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATGACCTTC | CGATACTATG | CGAGCGCTTC | ACGACATCCA | AACTGAAGTC | GTTCGAGGAC | 60 |
| | CTGAGCCGCA | TCCAAACGTA | CGGGTTCCGC | GGAGAGGCAC | TTGCCAGCAT | TTCTCACATT | 120 |
| | GCGCGACTAC | ATGTGGTGAC | GAAAACGAAA | GAGAATCAGT | GTGCATGGAA | GGCTGTCTAC | 180 |
| 35 | GAGAAATGGG | TAATGGTGGG | GGAGCCGAAG | CCGACGGCAG | GCAAGGATGG | GACGACAATC | 240 |
| | CTCGTACAGG | ACCTCTTCTA | CAATGTGCCG | TCCAGGCTGC | GGGCGCTGCG | ATCTCCAAGC | 300 |
| | GAAGAGTTTG | CGAAAATAGT | GGATGTGGTC | GGCAAGTACG | CAATCCATTG | GGATGGTGTG | 360 |
| | GGATTTTTCG | GTAAGAAGTT | TGGCGAAACA | CAGTACCGGT | TAAATGTACG | TGGGACTTCT | 420 |
| | TCAAAATCAG | ACAAGATACG | GGCTGTATTT | GGTGCTCCAG | TCGTTGCCAA | TTTAGTTGAG | 480 |
| | GTAGATATTT | CTGCAGACCC | TGAGCACGGT | CTTACATCCA | GTTCCGGCCA | GATTACAAC | 540 |
| | CCAGACTTTA | ACAACAAGAA | GTCTATACCT | GCTGTGTTTT | TCATTAATAA | CCGCCTTGTT | 600 |
| 40 | TCCTGTGATC | CTCTGAGGCG | AGCCCTATCC | CAAGTTTATC | CAACTTCTTG | CCGAAAGGTA | 660 |
| | ACAAACCGTT | TATTTACATG | AGTTTACACA | TAACACCGGA | GAATGTTGAT | GTTAATGTGC | 720 |
| | ATCCTAC | | | | | | |

1490UP

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|----|-------------|-------------|------------|------------|------------|-------------|-----|
| | GATCTCAAAG | ACCCAGTACG | ATCGCGTCAT | GGGATACATA | AACCACGGAA | TCAATGAAAA | 60 |
| | GCTCGCTTAC | GAACAGTTTG | GATCTGTACC | GGAGAAGGGC | TACTATATTG | CTCCCACAAT | 120 |
| | ATTTCTGGAC | GTTCCTCAGA | GCTCGAGACT | CTGCCGTGAA | GAGATATTG | GCCCTGTGGC | 180 |
| | CGTAGTTGCG | AAATTCAAGG | ACTACGATGA | AGCTATTCTG | TACGCTAATG | ACACTAACTA | 240 |
| 50 | TGGGCTGGCA | TCCTGCGTTT | TCACTGAAAA | CATACGCGTT | GCGCACCGCT | TTGTCCGTGA | 300 |
| | TGTCCAATCT | GGCACTGTGT | GGGTTAATTC | CTCTAATGAT | GAGGAGGTGG | GAGTGCCTTT | 360 |
| | TGGCGGGTTC | AAGATGAGCG | GTATCGGAAG | GGAGCTGGGG | AAGGCAGGCC | TGCAAACTTA | 420 |
| | CCTCCAGACT | AAAGCAGTAC | ACCTGAACTT | TGCTTAGATA | GAGCAACTCA | TATATTAGAA | 480 |
| | TCACCTTCATA | CATCAACTAT | ATATCATTAT | GTATATGACT | ATGCCAGAGG | TGTAGTGGAA | 540 |
| | CCACTATTTA | TCACGTGATA | GGCGTTGCGC | GGTCATCCCG | CCAGTACCTG | CGTTGCAGAA | 600 |
| 55 | CGCGGGCGAC | ACATTACAGCA | GGTGCTATAT | ACAGTTGTG | AGGACAGTAT | GGCACGCGAGT | 660 |

ACCATTATAG CAAGTAAGCC GTGTGCTGTT TGCATAAAGC GTAAGGTCAA GTGCGACCGG 720
CTGGTTCC

1491RP

GATCATCTCC GAATAGGTCT CCGGCACGAC GGACACAAAG CGCGCGTCCG AGTCACTGCC 60
GTCCTGCTGG GCGGGTGGCA AGAAGGAGAA GATGAACGAC CCGACTTCC ACTTGTGCTC 120
CGACGCCAGC TCCTGGACGA CCGTGTCCAC CTTGACCTGC ACCAGCGTGC CAGGACACGA 180
CAGAAAGTCG TCCTTATTCT CAGACAGCTT GTTCACAGCT GTAGGCTGGT AGTCCACCAG 240
CGCGTCCGCC GCGGCGGTGG CCCCCTCTGG TCCACCACGG ATGTGCTCTG TGTACACGAC 300
CGTCCGCTCC ATGTGCAGGA TCGAGCCGCA CGGCACTGGC GCGCGGAAGG TGGTGGAGTC 360
CAGCGATACG AACCGCGGCA GAGAGTGGCA GATCGATGAC GCCGCGCAGT ACCGCCAGCTC 420
AAATGTCTGC CGCATCAGGT AACCGCCGAA GATCATGTAC GAGTGTCCGT TCCGGTATTG 480
CGGCTGCATG AACATCGTCG ACTTCAGGTT CGTGTCTGTC ATCGACACCA CGCCGCGCGG 540
ACGCAGCTCG CGCGGCGTCC CGCGCGACGC GCGCCACAAC CCGTGGATCA TCCGCGACTC 600
CTCCGCGGTA GCGCGGTTCC TCTCTAGACT CTCGCTCTGC GCCTGTAGCT TCTTCGCGCT 660
GTTGTGGCTC TCCGCGCGCC GGAACGCCAC CCACTCTGTC TGGTCTGCG GTAGCA

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GATCTTGAAC AAAAAGTAGT TTGTTATTCT CCAGCTGCGC AGTCTCTTCC AGGGTTTTC 60
TTCCGATGCT TATTAATACT GGTTCCTTAG ATGGTTCCTG ACTTTGGCTA TAGGCCATTG 120
GTTCCGGCGA CTTGTGAAGG TATGCATTGA GAGTCTCTG GGTAGAACGT GTGGTCTCTC 180
CTGTAGTTT AGCAGCGGGC TTGGCCGGGA CTGGTACATC AGGCTGAGGT AAAATCTCGG 240
CTGGCGTTGC AGGTTCTATT TCTGTGGGTG GCTCTACACT AGGATCCAAT ACTTGGGCGC 300
TACTAGTATC GCATTCGTC AATCATCTA TGGCCACGAT GACAGAACTT TCTTCTTCCA 360
TAGGCTGGGA GCATGCAGTA ATCTCGGAAC ATGTGGTAGT ATTATGTAGG TGATCGTCTT 420
CGAATGTCCC AATCAGCTCC TGGCTGGGAA CGAGTTTGGC CTTTGTGACC TTCAACTCGG 480
AGTCTTGATG TGGGACTGGC AGTGACGGTA AAGATTTAGG CAGCATGAGC TCCTGTTCGT 540
TAAATGCCC GTCCAGTTTC TCTGCTAAAC TTTGGAGGAC ATACTCTTCA TTGTGAAGCA 600
ATACAGTCTT CTTATCCGGA GTACATTTCA CGTCTACAAA CTGCGGGGAG AGCTCAAAAT 660
TTAGAATAAT GACGGGATAC TGGACGTTGT TGAAGCTTCG ATATATGTCA TTGCAACACT 720
TCAGGACTT

1492RP

GATCTACTTC TCCAACAACG ACCTCCTGTG GTCCAATGGC TACCCCGTGA ACCGCTTTGG 60
CCAGGGCGCG TTCCGCAATG TTAATCGAGC CTTGTACGGC GAGCTCAACG CCGGCTACAG 120
CCTGGCCCCC ACCACCTAGC GCAAGCCCAA CCGCATTTGC TACGACTATG CTGCCCCGCT 180
CCTGGGCGCC TTGCTCGGCC TCCAGACCGC ACAGCCGCCC GCCACGGTAT ACATGGTTGG 240
CGACAACCCC CACAGCGACA TAATAGGCGC ATACAACTAC GGCTGGCGCA GCTGCTTGGT 300
GCGTAGCGGC GTCTATCGCG ATGGAGACAC GTTACCATGC CAACCGACCC TCGTCTGTGA 360
CTCCGTCTTG GACGCCGTAA CCGCCGCTCT CCAGCACTCT TCACATTAAC TTCTATACTT 420
TTACGTCTTC TATATACCCG GCTCGTCCGT CCGCAGATGC CTAGATCTGA ATCTTCGCCA 480
CCACAGTTTG CTCTTGAGCC AACTTGTCTG CGTTGCGCCG GCGCATATGC TCCTTGCACG 540
TGCGGAGCCC GCGGCACGTA TGGTTTTCCA TCAGCCGGTG GCGCGAACAG AACTGGCCGT 600
CACAGAACTG

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GATCATGTTG GTGGCCTCCT GCGTCGGCTG CCGCGTGAAG TTGGGGTTTG ATTCCGCGAC 60
GAGCGCCTGC GTGAGCCGGT TGATCTGCCG CACGTTCCGC TCGAGCCCGG AGGCCCTGTGTA 120
CTCGTCGGCC GACACGTCGT CGTCTAGGGA GAGCTGCTTC GAATTGGAGT TATACTGGAG 180
CATTGGTGAT CTGCCCTGTC GCAAGAGTGG TGGAGACGCT GTTCTTTGGC CTGTTCTGTC 240
AACAAAGCAC TCCGTGTTTT TCATGGACGG CGTGGTCCCA GGAGCGCAGA CCGGAGAAGC 300
GAGCGTCAGG GCCGCGCGGC AGGGACGTAG GCGGCTGCTC CCCACTATGT AATGCTGGAT 360
ATGAAGAACA GAAATACTAG ATAATATATT TGTATTAGAC AGTCTGTCCG ACCGCGCAGG 420
GGCGGCGTTC ACAAGTCCGC ATCGTCTTCA TCCGCAACG GCAATGCCGT AGCGCGCTCC 480
AGCTCTGCT GGTACTGCTG CATCAACTGC TCGTCCCCCT GCACCTCTGG AGGCGCCTAG 540
GCAGGCGAGC CAC

1493RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCGAATAA | AGTAGGTTTG | GCGCTGACCG | GCATCACCCG | CGGACGTAGC | GGGAACAAGT | 60 |
| | TCCCCGTGTA | AATGTTTTCG | TAGTCGATGA | AGGTATTAGT | ATTTCATCTC | TCCAGCAAAG | 120 |
| 5 | ACAAATCATA | CTGTTGGGCG | GGCCGCGAAG | AGTTACCAGT | GTATTCTGCC | AACGCTGCCA | 180 |
| | CGCTTCGGCA | ACTAGATTTC | AGTGCCCTTCT | GGAGCTCTGA | AACATTATCT | AGGATGTTGA | 240 |
| | ACGGATCGAA | AGCGGTGTTC | CGGGGCATAG | CGGACATGGC | AGTTCTCAGA | TTCTGCATAG | 300 |
| | AACCGGCATA | TAGAGCCAGT | GCCTCCTGAT | GCTTGCCTTC | CTCTTGGTAA | AGGGGAGCGA | 360 |
| | GCCCGCGGCC | TACAAGCTGC | GCACGGTAA | ACACCTTGAC | AAGCTTCAGA | TATGCAGTGA | 420 |
| | GCTCATCGTC | TGAGTAGACA | CCGGGTAGAC | CCATAGCCTC | CTCTGCATGG | GTGATTATGT | 480 |
| 10 | TGTTGATGAC | GTGGTTCAGC | TGCTTGTACT | TCGTGAAGCG | AGCGGTCTCT | CGGCCTTCTT | 540 |
| | GCCATTTCGAC | CCACAGAGGT | TGCAACAGCG | CAACATCGCG | GCCCATCGTC | GCGCACAGT | 600 |
| | AGTTGAATTG | GAGGTATGTG | AGCAATATCT | GGTCGTCTCT | TCCCTCATAG | TGCACACCTT | 660 |
| | CCTCCTGTCT | GCGCTCCATT | GACTGCCTCT | GGGCATCAAT | TGCCGCGTTC | CACCTTCAGT | |

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCATACTT | ATCCACCGGT | CAAGCCAGGT | CTCAATCTTG | ACGATGAGCC | AGCCGGGCGG | 60 |
| | CGTCGCCATC | TGGAGCCAGC | GCTCCCGGAA | GCCAATTAGG | TACCCCTAGC | CAAGCCCGAT | 120 |
| | TAGGTGGCCG | ACAAAGCTGG | AGCCGGGCAT | TAGCAGCGTG | ACAAGTACCA | GGAAACCCAG | 180 |
| 20 | CGGGATATAT | AGGGTCCGCA | TCTTCAGACT | TGCGAGCTCG | TAGTGGGGGC | GGAAAGCCCGC | 240 |
| | CTCCTGCACT | GCGAAGTAGC | CACACAGCGT | AAAGCACCAC | CCGCTCGCCC | CGCCTACGTA | 300 |
| | AACGTTTGGG | TACAACAACA | TGCCAACTAA | GCACTACACG | ACGCCCCGTC | CAATGGCCAG | 360 |
| | GAGGTTGAGC | GTGATTCCCG | TAAACACCGT | CCCGTGTGAC | GCTTCGAACA | TGCACAGCCG | 420 |
| | CACAAACAGC | GACATCAGAT | TCAACAGCAA | ATGGAAGATT | GACAGGTGCG | CCAGTGGATA | 480 |
| | GAGGGAGAGC | CGCGTCAGCT | GCAGCTTCCT | AAGCGCCCCC | GGATCCAACA | GGATCTTCTC | 540 |
| 25 | GTTGATTGGG | AACACCCAAT | TCAGCACATA | CACAAGCGTA | AGGGAACACC | GACAAGCCCTG | 600 |
| | CAGTAAGAGC | GCCCGGCTTA | TGGACCCCGG | TCCGTAAACAT | CGACTTCCAA | TCCATCTTGC | 660 |
| | TCAATCAAAG | TGGCAGTTTG | CTTGGGCGTG | GCAGTGGACT | ATGCCTCGCC | AGTTGCCCAT | 720 |
| | CAAAAC | | | | | | |

1494RP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTTCGTT | CGTGAAAACC | TTGCACGTCT | TCATGAGCTC | AAGAATTGCC | TCTGCATCTA | 60 |
| | TTCTGTCCGG | TTGGATTCTG | CCTTCCCTTAT | AGTCCTGAAT | CATGCGCGCA | AAAGCGCGCG | 120 |
| | GCGTCCAGTC | ATGACGGGAT | CGGCCCTTAT | AGGACTTCCC | TGCAAGCCCG | ATGAGGCTCC | 180 |
| | GCCAGCCATT | TTCTTCAATA | ATATTGACAA | GTCTTTCGTT | TTCCAACACG | ACCTTGTTTCG | 240 |
| 35 | CGAGACTGTG | GAACGTGTTT | ACGTCTATCT | GCTCAAGTAT | TTCTACCCTT | TCCTCAGCAG | 300 |
| | ACCATCGCAA | GTTCGAATCT | GCCTCTTGGA | ATGTCTCCAT | AAGCTTTTCA | TTGATGTTAT | 360 |
| | CCACTGCTTT | ATTTGTCAAG | GAGAGGATTA | GTATTTTCATT | AGGAGCTACA | ATCCCTTCGT | 420 |
| | AAACCAAGTT | GTAGACTTTA | TGCAGTAGTG | TCACGGTCTT | GCCAGACCCA | GGTCCCGCTA | 480 |
| | CCACATTGAC | AGTTGTACAA | GGCTCATATG | GATGTGTTAC | TACTCGTGAT | TGGGACGTCG | 540 |
| | TCAGTGCTTT | CATTTCATGA | TGATACATGC | TCGAGCGTCG | GCGAAGGAAA | TAAATTCGTG | 600 |
| 40 | AATTTCCGTT | TTAAGATACT | CAAAAGAGAT | GAGATAACCG | CCCGCAAGGC | GGAGTAGAAT | 660 |
| | TACAGCAGCT | ATTGAATATA | TTTAGTTTAT | TTATCTGGCT | AGCTTAACCA | CTAGTGT | |

1494UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCTTTAG | GCCATCCTCT | CCAAATTACC | CGTGCTTGCC | TTCACTAGCT | CAGTCGGAAG | 60 |
| | AGCGTCAGTC | TCATAATCTG | AAGGTCGAGA | GTTGGAACCT | CCCCTGGAGC | AAGTTTTTTG | 120 |
| | CTCCGGGAAA | TAAGTATTTG | GAGCTGGACT | GAAGCGCCAA | CCTATGCAGC | TTTGCTGGTG | 180 |
| | CGAAGTGTTT | ATTTCATGCT | GCGGACTATG | TCTATATATC | TTGCGCGTCT | TGTTCTTCTG | 240 |
| | CTGGCGAAGA | GGAAATTGGAT | TCTTGGGCGT | GGTCTGCAAG | CTCTGCTAGC | TTCTGGGCGG | 300 |
| 50 | GCAGAACACT | TTCAAAACGCC | TCTTTCCAGT | CATGGTTGTC | AAAGTATCTG | AGCATGATCT | 360 |
| | GGATAACGTG | GGTGGTGGTC | AGCACCTTCC | TGCCGCATAG | CTTGATGTAC | TCTCCTATTG | 420 |
| | GTAGGCGAGC | AGTAGGAATG | CCCACTTCTT | TGGCCTTATT | GTAACAGAGA | GCTTTGTGTC | 480 |
| | GTTTCTTGTC | CACAATGCCG | CCCACTATAT | ACGTCGTACC | GGGTTCCAGC | GTCTCCAGCG | 540 |
| | TCTCATCAGT | ATCTGCAGTA | AGGTAAACTG | CGTTCGTAGT | TGGAAGGGGG | GATTCTGCTG | 600 |
| | TGAAAT | | | | | | |

1495RP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCGAATTA | GCGGGTTTTA | ATGAAACATA | AGGAACGAGG | TCTAAATGCG | CAACATCCTT | 60 |
| | GAAATGCAGTG | CCAAGATGTA | TGCCGTTCTT | GGTAAAGAAA | ATTGTACCAT | CGACATAGTT | 120 |
| 5 | AATGCCACAT | CCGATCACGT | CGTCTCGACC | ATAGGGCTTC | GAGTACGACT | TGAACAAAGA | 180 |
| | GCGGTCAATTT | ATGTAACCGT | CCGACCCGTT | GTAAATGTAG | ACATCCTTAC | CAGTGCTACT | 240 |
| | CTGTTCGGAA | GTTGGCCTGG | AACCCCTCAA | AGGCCCTCTT | AATATGTTGG | AAGTTTGCCG | 300 |
| | GTTCAAAGGCA | GAAAAATTCAC | CCGGGTCCCT | CGAAGGTGGA | TCGCTAGTGT | TTGCTTCGCC | 360 |
| | AGCAATTTGAC | GCGACTTTTG | ACCAGTCCCT | AAATCCAATA | TTGATATTGC | AGGTTTGCC | 420 |
| | TGACTGCGCG | CTGGTCACCG | ATAGTACCTT | AATTTTCATAG | TAAAAGATAG | CCACTTTCTT | 480 |
| 10 | ATGATTAATA | CAAGCAATTCG | CCCAGGTGGA | AGCCCACTGC | TGCTTCTGGT | TATTAAGTGA | 540 |
| | AGTCCGTAGC | CTATTATTTA | CAATAGGGCT | GTTGTCTAG | CCAGAGTAGA | GCTGCCAGTT | 600 |
| | GCGGTTAGGC | CGCAAGTTTG | TGAAACCGTC | TGTTGAGACC | AAAAGTGAAT | TGTTCCGACTG | 660 |
| | TGTGGTCCAG | AGGTGGGGCA | AAAGGATACC | TATCGAGGAG | TATACGTCTG | AGAAA | |

1495UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCAGCCAA | CAGCTGAGTT | CTGATTTCGAT | GAGAGCTATT | AGTAAACTTT | TTGTGTTTAC | 60 |
| | GGTGTGTTTC | CTGGGATCGT | TACAGTACTA | CTGTGGACGC | TACGGCCGCGT | GCCCGCGCGA | 120 |
| | GATTGCAGTG | ATAAGCCATT | ATACGTGGCC | TTGCACGTAC | GCGCCGCGCAG | TACGGGATAA | 180 |
| 20 | ATTAGGGAAG | GCCAGCGAGT | GGTACGGGGC | CAATGCGGCT | CCGCATGTGT | CGGTGGCGAG | 240 |
| | CGGGTGGATG | CAAGGGAAGG | TGATGCCGCA | CCTGACGAAA | GTATCCAGT | GGACGGAGAA | 300 |
| | GCATGTACAA | CCGCGGATGC | GGCAGGCTGG | CGCGGACGCG | ATAGTAACAG | CGCGCGTGGC | 360 |
| | ATGGAATGTC | GTACAGCAGT | ACCAGCGCGG | GCAATGTGGT | CCTCTGACAG | GCGGACTGCT | 420 |
| | GGCGAAGTGT | CCGTGTCTCG | AGAGGTGGGC | CGAACAGCT | GCGCGCGGCT | GGCAGTGGCT | 480 |
| | CTGCAAGCAT | GCTCGGGGCG | TACCACAGCA | GTACAGCAGC | AGTATCCTGC | GTTGTGGCG | 540 |
| 25 | CATATGGGGG | GCATATGGGA | GCCTTTGCAC | GGCGCCTACA | ACCGGATCTA | TCTGGACTTG | 600 |
| | GGCCGCCAG | TGCAGGAGAA | GACGTCCGAG | GACSCAGTGC | GGCGCCCGGG | GGGACTCAKT | 660 |
| | ACATCACATC | CACATATACA | ATGACCATGA | CTCGCTCGAT | GAACTC | | |

1496RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCGTTTTTC | TGTCAAACCG | CAGTCGGGTT | CAAGGAGTAC | GTGGAATTTA | GCTCTTGCAT | 60 |
| | TCAAACAAGTC | TTTCCCAGTT | TCCACAATGT | TGTCGATAAT | GAAGGGTTTA | AAGTCTAGAA | 120 |
| | GCTCTTCTTG | CGTGAAGCCG | TTCTGGTGAA | GAATCTTCAG | TTGTTCAGT | ACGGTCGATT | 180 |
| | TCCCCTCTCT | GCCAGAACCC | AACAACAAA | CCTTGAGCGC | GCGATTGCTG | GCACTCGGTT | 240 |
| 35 | GCCCCATTGA | CCCTGGTCCA | GCCACTGCCG | TTGTCTGCTG | ACTCGTCCCG | GATACCACGG | 300 |
| | AGCGTTTCTCT | GCCGCCCGCT | GTAGCGCCGG | ACGTGCTATG | ACTGGGTGAC | GTCTCAGGTT | 360 |
| | TGACTTCTGTC | ACCGTAATCT | ACCCTCTTTG | CTCCTGTTTT | TACCTTCTGA | GAAGCACCAT | 420 |
| | GTCTGTCTTG | ACGCCGCTTT | TCCGCGTGTG | TTGCTGATCC | CTTGTCTTTC | GACGCGCACA | 480 |
| | ATCCCAATTAT | GTCCGGCTCT | ATATCCACCA | GTACTTGGAG | CACCTAGCG | CCTGGCTTTT | 540 |
| | TTTGAAATAT | TACCGTCCGG | GCAAAAGCCA | CTTATAGCGC | CTGATCAATG | GATTCCACTG | 600 |
| 40 | CTAGAGGCTA | ATTAGGCTGC | CGCTTGTCTC | TTCCGCGGCC | ATCACATTAT | ATTCTATAGCA | 660 |
| | AAGTAGGTGC | CAACAGAAAA | AATCAGCCCG | CCTCCTTTAT | TGATCACGTG | AAGAAATCCA | 720 |
| | CATGAACAAT | CACGTGAACA | CACATTTGG | | | | |

1496UP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGAAGTC | AATGCCAGAC | TATCTCGTTC | TTCTGCATTG | GCGTCCAAGG | CAACAGGATA | 60 |
| | CCCCCTTGCC | TATACTGCCG | CTAAGATTGC | TCTTGGGTAT | ACATTACCAG | AGTTGCCTAA | 120 |
| | TCCTGTTACC | AAGTCGACGG | TCGCCAACTT | TGAACCTCA | CTGGACTACA | TTGTGGCCAA | 180 |
| | GGTTCCAAGA | TGGGATCTCT | CCAAATTTCA | ACACGTGGAT | AAGACTATTG | GGTCTGCCAT | 240 |
| | GAAGTCCGTA | GGTGAAGTGA | TGGCGATCGG | CCGGAATTTT | GAGGAAGCTT | TCCAAAAGGC | 300 |
| 50 | TTTCCGTCAG | GTTGATCCAT | CTCTACTAGG | TTTCCAGGGC | TCTGACGAAT | TGCGAGACCT | 360 |
| | AGATGAATGC | TTGCAATTTT | CTACAGATAG | AAGGTGGTTG | GCTGTGGGAG | AAGCGCTAAT | 420 |
| | GAACAGAGGT | TACTCTGTGG | AACGTGTACA | CGAGCTTACG | AAAAATTGATA | GATTTTTCTT | 480 |
| | GCACAAGTGT | ATGAATATTG | TCCGAATGCA | GAAGCAATTA | GAGACCTTAG | GATCAATAAA | 540 |
| | TCCGCTAGAC | GAGGTTCTGT | TGCCGAAGGC | TAAAAAGCTC | GGCTTCTGTG | ACAAGCAGAT | 600 |
| | TGCACGGGCT | ATTTTCAGATG | ACCTCTCTGA | ATTGGATATT | AGAGCGCTCA | GAAAAAGCTT | 660 |
| 55 | TGGCAATTTT | CCATTTGTTA | AACGTATCGA | CACCATGGCG | GCAGAAGTTC | CTGCGGTAAC | 720 |

CAACTACTTG TATGTTACCT ATAATGCGGT CAAA

1497RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCATTG | TCTTCTTC | CTCTACAA | TGTGAATAT | ATACTAGAC | TGAAGTCAG | 60 |
| | TAGGGAGCA | CCCAACCC | CGGTTCGCA | AGAGGCTGG | AAATCCATT | AAAAGACCG | 120 |
| 5 | TTGGAATGG | AACTCTAAA | TTGAAACTA | GCAATTTCA | GAACCTCTG | CAGTTCTTG | 180 |
| | TCTTTCCAG | ATTGACTAT | ATAACCTTA | GAGAAGGTAT | CGAACCTTA | AATCTCTGA | 240 |
| | AAGGGCGAC | ATTGAAGAT | TATTACATG | TGTTGTCGAC | AGAGATCTG | CGGAGCGCA | 300 |
| | TGTTACTCAT | ATCCAAAGAG | AATCTGAGCT | GCAACAATAT | GAGGAGGAT | GGAGGAATG | 360 |
| | GGTATGAAAT | GTTCCCCAT | TGGATTAAG | TATCAGGTG | TCACGATAT | CACATATAT | 420 |
| | TGCTATTAA | GGCATGCAA | GTGTAGAAT | AACTAAAGA | ATATGTTATA | TATATATAT | 480 |
| 10 | ATAAACTACA | AACTAACGGA | CGCAATGAAA | TCTAAGTGTC | GCAAGGTTAG | CCTTAATACC | 540 |
| | GGTACTTGA | TAAAATCTCC | TTTTTCAAAT | GATACAAGCG | TCCCATTTC | AACGCCATGC | 600 |
| | CAGAATCACT | GGCTGGATT | ATCATGATTG | TGATTGCGGT | TGCCTCAGTC | GGAAATAAAT | 660 |
| | TAGCAATACT | CATTATACCC | TTCCGCGACCT | CCAGCCGCTT | CTCTTGGGTA | GGTTCAAATG | 720 |
| | AGGCAATTTG | CATACTCTTT | | | | | |

1497UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCTGTCA | CAGCGGGCGA | CGCCGCGAGC | CGCGTACGGC | GACCTGCAGG | ACGAGGTGAA | 60 |
| | GGTAGGAGGG | TCCGAGGCGG | CCTTTGGCGA | TCCGGGCGTTG | TTCGGGGCGA | TGGGCGGGCG | 120 |
| 20 | CGCGCCGGAG | GATGGCGACG | AGGGCCCACA | ACTTGGTGCC | GGGGTGGCGC | CCATGGTGAC | 180 |
| | GGCGCACCTT | CCGATGGAAC | CCTCGCAGCC | GCACGCGCTG | CCACAGCAGG | CCCCCACTCC | 240 |
| | GCACCGACCA | CAGCAGCCGG | CCCAGAAGCG | AATGCACATG | CTCCAACAGC | TGCACGAAGA | 300 |
| | GCAGAAGAAC | TATTCTTACG | TGGACCGCCA | ACCGTCAATT | ATGCAACAGC | AGCCACACAT | 360 |
| | GATGCAGCAA | CTGCCGCAAC | AACGGCCTCG | GATGCAGCAA | CTGCCGTTGC | AGGGCCAGTC | 420 |
| | CGAGACGCCG | AAGCCCGCAG | GCAGTTCTCC | AATGGTGGTG | CCCGTCAACC | ATAGGCAGCT | 480 |
| 25 | GTTGCAGAAC | CTCGACCCCA | GCATCCAGAA | AAGAGTATCA | CAGGATCTGA | ACAGCAAGCA | 540 |
| | GTATGAACTA | TTTGTGAAGT | CTTTCATGGA | ACATTGTAAG | CGGTGTAATA | TTCCGTTTAA | 600 |
| | CCCAACCCTG | AGATAGGCGG | GACGCGGGTG | AACTTATTCA | TTTTATACAT | GTTGGTACAA | 660 |
| | AGAATGGGCG | GGGCAGATAA | TATCACGAGG | CTGCAGCAAT | GGCGCGGCTT | GGCAGAAAAA | 720 |

1499RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| 5 | GATCAGCTTC | ATCGATTACC | CAGAATTCCG | CTTCAACAGC | AACGAGGCCA | CCGAGATGCC | 60 |
| | CTTCCGCTAC | GTACTGGACG | CTGCTGGCAG | GCCCATTTCTG | CCATCAGGCA | TGCTAGAGCT | 120 |
| | CATCAAAAAG | GACTCCGAAC | AGAGTCTGGA | TGACCTACTT | TAGGCTCGTT | GAACAACAGC | 180 |
| | TTATAGATGA | TGTATATATG | CGCGTCTGTC | GCCAGAGACT | GGCATCGGAA | GCCACGCAAC | 240 |
| | CTAAAGTCGA | TAGAACTCTG | TCAACAGAAT | CAGTTCTTTT | CCTCCTTCAG | CATCTCGCCA | 300 |
| | AGCAGCTGCT | CGAAATCGAT | ATCATCAGAA | GTGGTTTTTT | CAGGAGCAGC | TACGGCGGGC | 360 |
| | TGCTGCGACG | CACGTCTCT | AGCCTTGTA | AATGACACAC | CCCCGAACAG | CGTGAATAGC | 420 |
| 10 | GTGCCAAGCA | CCAAAACATG | AGGCTGAACC | GGCTTTCCAA | AGATGTTGTA | AGCTTGACCC | 480 |
| | ATCGCTAATC | ACCGAATCCG | CTGCAGATAT | GGGGTCTGAT | GGTCTGGTGT | GTAGCGGTGT | 540 |
| | GCATTTGTGA | GCTCCTATTG | GCGGAGGAGG | CAAGTCGATC | TAGAGGGCTA | CAATGAGGTG | 600 |
| | TTGGGGTGT | TGTCAGGGTA | CGGAGGAGGT | AGCACGTGAT | CGTTCAAATA | TCTGTACCGC | 660 |
| | CCCATGAACA | TCTATTCCGT | GCATTGGGTT | TGGAGCACGG | GCGATCATTG | GAGACTAACA | 720 |
| | CTCACGAATT | TTGCCTGGCG | GA | | | | |

15

1499UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 20 | GATCGCAATG | GAGAAGGTAA | CGCTGCTACC | GAAGGTTATC | AGTGTTTTGA | ATAAGGCGAA | 60 |
| | CCTTGCAGAC | ACAATTTTGG | ACAATAATTT | GCTACAGAGT | GTGCGGATCT | GGCTTGAGCC | 120 |
| | ACTGCCGGAT | GGATCCCTAC | CATCCTTCGA | GATACAGAAG | TCTCTCTTTG | CCGCGATTGA | 180 |
| | GAACCTCCCC | ATAAAAACAG | AGCACCTCAA | GGAGAGCGGA | CTGGGGAAGG | TGGTCATATT | 240 |
| | TTACACCAAG | TCTAAGCGTG | TAGAACACAA | GCTGGCCCCG | CTAGCTGACC | GGCTGGTTGC | 300 |
| | AGAATGGACG | CGCCCTATTA | TCCGCCCTTC | CGATAACTAC | CGGGACAAGC | GTGTCTTGAA | 360 |
| | GATGGACTTC | GACGTGGAGA | AGCACCGTAA | GAAAGCGGCA | CTTGATTCTG | CCAAATCTAA | 420 |
| 25 | GAAACGGAGA | AAGGCTGCAG | TGGACGAGGA | GAAACACAAG | TCACTCTACG | AGCTTGCCCG | 480 |
| | TGCCAAGCGG | AACAGAGCCG | CAGCGCCTGC | GCAGACAAAC | ACCGATTACA | AATACGCACC | 540 |
| | AGTCAGCAAT | ATCTCGAACG | TACAGACCGG | GATCCGCACG | GCAGGCGTGG | GCTCCACGCT | 600 |
| | CAACAACAAC | GATCTGTACA | AGAGACTCAA | CTCGAGACTT | GCCAAGTCTA | AACGGTCCAA | 660 |
| | GTAACCGCTG | TGTACTTCAG | CTAATAGTAT | TATAATAACG | TTTAATGATA | CTGAAA | |

30

1500RP

| | | | | | | | |
|----|------------|-------------|------------|-------------|------------|------------|-----|
| 35 | GATCAGCTAA | TGGCTGCTTG | TCAAAGACCA | AATCCTTCAC | CCCTAGAACT | TTTCCTAGAG | 60 |
| | CATCCATTCC | GATAACCTAG | GTGCTTTTGT | GTCTTAAAG | AATATTGGTT | TAATTTGCTT | 120 |
| | TCGCGGACGG | AGTAAAGCGT | TATGTAGCAT | TTTCAAAAAG | AGGCTTAATG | GACACATCCC | 180 |
| | AGGATAGTAT | GAATGAGAAA | GTCCAATTCC | TGGCACCATT | GTGCTAGTTC | TTATATTTAC | 240 |
| | TGTTATACAT | CTACTGCAGA | GTCAAGCATA | TATACCAAAAT | AATTCAACCA | ATACTAGCTC | 300 |
| | TTCTAAGTCT | TCAGCTGATG | GATTCGCGCC | AAGGCGCCCG | AGAGCTGCAG | GTAGGTACCC | 360 |
| | ACACCTTCCA | AAATCCTCAT | GTGCGTGAAT | CCTATTCTTT | TAATCATCTC | CAGCGCCAGG | 420 |
| | GGTCTTTTAA | TCTCTGTCAA | GTCTTTCATG | ACACGGAAAC | ATGTAGTGAT | TATGTCCACC | 480 |
| 40 | GCCGAGTACC | TTTGCCCCAC | AATTCGCGTA | AGTAATTGAG | CGACTCATCA | AGAGTAGCAG | 540 |
| | ATAGCAGCAT | TTTCTTTGATG | ACCAGGGGAT | GCGGCGAGTC | CACTATCTTA | AAAACGTTGT | 600 |
| | CGCCGTTTAC | TAACGTGAAG | CCCGCCACGG | TGCTCTGCAG | ATTGTTGATG | GCCTGCCGCA | 660 |
| | TGTCACCTTC | CGCAGTGAAT | ATCAGCGCCT | CCAGACCATC | ATTGGTGTTC | TGTACGTTT | |

1500UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| 45 | GATCGCGACC | CCCCGCGTCA | CGGCAAGGCC | CGCCAACCGC | GAGGAGGAGA | TCAATGGCTT | 60 |
| | TGACCTCGAG | GCGCCGCCCC | AAAAGAAGAC | CAAAATACTA | TAGTAGTACG | TACATTTGTAA | 120 |
| | TACATGCGCA | AGACTTGCCG | CCAGTTAGCC | GCCCCGCTCC | CAGGTCTTCA | CCAGCGCCGT | 180 |
| | GCCGTCCGCA | GACGTGCTCA | GCAGCTGGCG | GCTACCCTCC | TTGTAGACGG | TGTCAATGAC | 240 |
| 50 | TGCGCCCCGA | TGCAGAGACG | CCAGCTCGTC | GGACACCACT | ACCTCGCTGG | TCACGTCCAC | 300 |
| | TACGTAGCCG | TACGCCGCAA | CATAGCGTTT | GTCTCTACG | AAAGCGCACC | GTGCCAGGAG | 360 |
| | GCGTCCGGTG | TTCCGCGCAG | GGAGGGCAAA | TCCCCGCTTT | AGACGCTGTC | CGGCCTGCTG | 420 |
| | GCCGTAAAAG | CTCACACTGT | CATCGAAGCC | CAGCGCACAC | ACCTCCTCTC | CATGCGCGGA | 480 |
| | AGTGCACAGC | GAGGTCACAC | CACCTCCGTC | GCCGGTCTGC | GTCTTCCACA | CTGCGTCTTC | 540 |
| | GCTGCGCCGC | TGCTCGTAGG | CTCGTACCAC | TGGCTCAATC | CCCGACGTGT | ATACCCGCCC | 600 |
| 55 | GGCCGAGACC | GGGCAGACGG | CGGCTGATAG | CAGCGGAAAG | TGGTGGCCA | CAAAAGCCGC | 660 |
| | CGGG | | | | | | |

1501RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTATTTA | AATATAACAT | ATTATTTTAT | TCTTTTTTTA | AACATTTTAA | ATTTAATTAA | 60 |
| | TTATTTATTT | ATTTAATTAA | TTATTTTAT | TAGTTAAGAT | AATTTTATAA | CTTTAATTAG | 120 |
| 5 | AGAGCTAAGG | TACACACCCC | TAATGCTTTC | AGCATTCTTG | TGGTACCAC | CTAATTAAAG | 180 |
| | AGTTATTATA | TTAATGATAT | AATATGTAGA | TATTCAGTTT | TGAACTGAAG | ATATATGTCC | 240 |
| | CTAAACATA | TGTTTTACCA | ATTAACATAT | ATCCACTAAC | TTTTATTATA | TAATTTAATA | 300 |
| | ATTAAGAATA | TTTTAAGATT | GAATTAGAGG | AGTATTAAAT | GAATGAATAA | GAGGTGGTGA | 360 |
| | ATTTAATATA | AACTCAATAG | ATGATGATTT | AGTAGTATTC | ATTAAGAAAA | TATTATTTGA | 420 |
| | TTCAATAAAA | TCAGGTAGTT | TTATATAATT | AATAGATTTA | TTATTAACTT | TATTAGTTAA | 480 |
| 10 | ACCATTTATT | AATTGATCAT | AAATAATATA | AAGGAATAAC | ATTAATGATA | TAATAGTTAT | 540 |
| | TATAGAACCA | AATGAAGATA | CTAAATTTCA | ACCTAGGAAT | AGATCAGGAT | AATCAGGAAT | 600 |
| | TCTTCTTGGT | ATACCATTAA | TACCTAAGAA | ATGCATAGGG | AAGAAAATAA | TATTAAGACC | 660 |
| | TAAGAAAATT | AATCAGAATT | GAATTGTGAT | AATTTT | | | |

1501UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCAAAATA | AAATAGAAAT | TAGCTTAATG | GTAGAGCATT | CGTTTTACAC | ACGAATAATT | 60 |
| | TGAGTTCGAT | TCTCAAATTT | CTAAATAATA | ATTAACAATA | ATTTAAATTT | GGGTAAAAAT | 120 |
| | TAATAAATAT | TAACGTATAT | AATAATTATA | TACTTTATAA | AATTACTCAA | TGTTATTAAT | 180 |
| 20 | AAATTTATTT | CTTATCATT | ATAATGATGT | ACCTACTCCA | TATAATATAT | ATTTTCAAGA | 240 |
| | TTCACTACTA | CTCATCTAAG | AAGGTATTTT | AGAATTACAT | GATAATATTA | TATTCATAT | 300 |
| | GTTACTTGTT | TTAGGTTTAT | TTTCTTGAAT | AATAATTATT | ATTATTAAAG | ATTATAAAAA | 360 |
| | TAATCCTATT | CTTTATAAAT | ATATTAAACA | TGGTCAAATA | ATTGAAATTA | TTTGAACAT | 420 |
| | TTTACCAGCT | ATTATTTTAT | TAATAATTGC | ATTTCCATCA | TTTATTTTAT | TATATTTATG | 480 |
| | TGATGAAGTT | ATTTCCACCAG | CTATAACTAT | TAAAGTTATT | GGTTTACAAT | GATATTGAAA | 540 |
| 25 | ATATGAATAC | TCAGATTTTA | TTAATGATAA | TGGTGAAACT | ATTGAATATG | AATCTTATAT | 600 |
| | AAATCCTGAA | GAATTATTAG | AAGAAGGTCA | ATTAAGAATG | TTAGATACTG | ATACTAGTAT | 660 |
| | TGTTATTCCG | GTTGATACTC | ATGTAAGATT | TATTGTTACA | GCTCTAGATG | TTATTCATGA | 720 |
| | TT | | | | | | |

1502RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCGCTCCC | AACCCCTGCT | TGATCTCCAT | ACTCATCTGG | TTTTTCAGGT | AGCGCGGGTG | 60 |
| | GTTGAATACG | GACTTGTCGA | AAACGAACAC | ATAAGAGAAT | GACGCCACGA | TCAGGTACAG | 120 |
| | CAGCCAGCCA | AACACTGTCT | TCACCAAAAA | CAGAGACAAG | CTCTGCCGCA | ACAGGCTGTA | 180 |
| 35 | TCGCGGCAGC | ACCGACCCGA | AAGCATGCGG | GCTAACCTCG | AACAATAACG | GTGCATACCC | 240 |
| | ATATACTTCC | AGCGGCCTCT | CAAGCGACCT | CCCGAACACG | CGCGTCGCAT | TTACCATCTG | 300 |
| | CTCCTTAATC | ATCGCCTGCT | GCCAAAGTCCC | GCCCATCTTC | GGCGACAGCG | ATGCTGGCAG | 360 |
| | CAGTGTGGCA | TACACATAGT | CGAAGAAGTA | CGAGTCGCAA | AACTCGAGCA | CTAAATCCAT | 420 |
| | GGTCGGAGAA | CGCTATAGAC | TAGGAGAAAC | AATTTTAGCT | CTAGGTTGCC | TGCCTTCTAG | 480 |
| | CGTGATAACA | GATCCTGCTA | CAGCTACTAA | AGCCCATCTG | CCGCTCTCCT | CTGGCTTTT | 540 |
| 40 | GCACCTTTTAT | ATGGTCCATC | CCGGCACTGA | CCTAACGTAC | GCGGCTCTAT | ACGACGCTAA | 600 |
| | AAAATCAAGT | TACGAATGCA | CTATACGAAT | GCGTTGAGCA | AGGAACGAAT | CCCTTTTGGA | 660 |
| | ACGACGATAT | CACGTGAACG | AAGCCGCAAC | GTTCCGGTGC | CGGGCGCCTA | | |

1502UP

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|----|-------------|-------------|-------------|------------|-------------|-------------|-----|
| | GATCAAAAAAT | ATTTCGACGCA | TTTGCCGCTC | TTTAGTGTAC | TTCCGGTTCAT | TATGGAGATG | 60 |
| | GCCAATTTTAC | ATCGGTATTT | TCGCCCTTACT | CATAAGAGTA | TACAGTGCCA | ATTTCCGTGA | 120 |
| | ATTGAGGCCT | ATAAACATCT | GGTATGTCTT | ATCTTCAGTT | CTCTCTGGGG | ATTCGCCCCAT | 180 |
| | CACCTGGGATT | CCATTTCAGTT | TCAGGCTGCC | AGGAGTTGGA | ACTAAAACGT | GGTTTTTGGA | 240 |
| | TCCTCTGAGA | TCTCTGTTCG | CATCAAGCGC | AAGATAGGCA | GCGGTGCTTT | TGTATGAATA | 300 |
| 50 | TGCGGTTGAG | GATGTCTCAC | TCAGGTTTGG | AAACCTATAT | TATGGTGCAA | TATATATTAA | 360 |
| | TGATAAGAGC | TTTCTCTGAC | TAACAGCAGT | AACTCTTAAT | TGAAGTATTT | GTTATTTCCA | 420 |
| | ATCTTCATAC | AGTATGTCTC | CCGTGTGTAT | TATAGATTTT | GTTTACGAAT | TGGATCGTGC | 480 |
| | TTTCGTGGCT | GCGAGGTCAG | AAGATCGATA | TAATAATATA | TATATTATTA | AATTATGGTA | 540 |
| | GGTAGGGAAT | TGCTATTTGT | GTCTAGTACT | CGATGCCTTA | TCTACAACCT | CTAGTTGCAA | 600 |
| 55 | CACATGATAT | GCTGTGGACC | AAAACGCTAC | GGCGTTATTG | ATTTTATTCA | AGGTCAAGAT | 660 |
| | CATATATTAG | CGTAATATCT | GTGGAGGTTT | CT | | | |

1503RP

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|----|-------------|-------------|------------|-------------|-------------|-------------|-----|
| | GATCTTCGTA | TACATGTCCG | AAAGCTCCTC | CAAAATCTTT | TCGTCTCCAT | CATGAGAGGC | 60 |
| | TGCTACAGCT | TTTGAGCCGA | TAGAATTGGA | AATACCATTG | GAGATTGCTA | TTAGTAGGAA | 120 |
| 5 | GACAAATATA | GTACCATCTG | TCGATGGGGC | AGAGGCTTTA | TCAAGAAGGT | CCATCAGCTT | 180 |
| | GTTCCTTGGAT | ACAGCAGTCT | CATTTAATAA | TAATGCCTGC | TCACCACTGG | GCAAAAATTC | 240 |
| | AGAAACATTG | AGCAGTTTCAG | AGAGTGAAGT | CGACTCAAAG | TTTTCGGTCA | TTGTCTCTAA | 300 |
| | CAAGACAAAA | ACAACGTCCT | TCCTGCTCTC | ATGAACATCA | TAAGCCTTGA | AAACCTCGAG | 360 |
| | CAAAATAGTA | TTGTCTCTGA | TCACGTTCAA | AAATACCTCT | AGAATTAAATG | CCTTCTCTCCA | 420 |
| | CAATAAAGTG | TCAGATTTAG | GAGACAGAGT | GTGGATTAAAT | AATGATAAAA | TAACTTCCAA | 480 |
| 10 | TTCCAATTCC | AGCAATGTCA | AATACTGAAC | CTTTATGAGA | AGTGTAATAC | ATCTGGCGCT | 540 |
| | ACGAACCACA | ATTGCAAAAAT | TTTGTGATGA | GGAAATGTAC | CTCAATAGCA | GCGGCACCGC | 600 |
| | CTTTGTTCCG | AACAGAAATA | ACAGATCTCG | GTGTGTCAAA | AATAATAATT | CATAGTTCAA | 660 |
| | TAAACCAGT | TCTAGGAGCT | CTAATCCATA | CTCCTCATT | ATGCAATTGC | TATCCA | |

1503UP

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|----|-------------|-------------|------------|------------|------------|-------------|-----|
| | GATCTGCGCG | CTTCGAAGGG | AAAGGCGGGC | CCCAATCCCC | AGTCTATGTT | CAAGAGGGCG | 60 |
| | AACAGCAGCG | CGTCATGGCA | TTCAATAAGC | GAATGGGCAC | TCGAGCGTTG | GCACATCATG | 120 |
| | TGCTGGATAG | CATCATATAC | TACACAGACA | AGGTGGTGGT | GAAGGGGCTT | GGAAATTTGT | 180 |
| 20 | CCGCGAGCTT | ACCTTCCAAAG | ACCTCTCTCG | CGACAAGCGT | CAGGGGTCTG | GTAAGGAAAC | 240 |
| | GCAATTGGTCT | CGAAGGCGCA | AATGATGTCT | TTGTATACCG | CACAAAAGAC | CTGGTATTCTG | 300 |
| | ATAGTGATGA | AGATATACCC | AGAACCTAAC | TACTTGTGTC | GATATTTCTC | ACACCGCGCTG | 360 |
| | GTGCGGAACC | GGGGGCATAC | ATTCTGTTTA | CACAAGAGGG | GTTGATGCAT | AAAACGCGCT | 420 |
| | TTCAAAAGTG | GCAAGCGAGA | GCTGCCGACT | GTCGTTGCTT | TTGGTGCGGC | GACTGTAGGC | 480 |
| | AATGTGCCAT | CCCGTGCGCC | TTCTTTTACG | CGAGATCCAG | TCTCGCAAGC | CTGGCTGTAA | 540 |
| 25 | CCAGAACAAT | CGGCTGAAGC | CCGCGACAGG | TCCCTCGTGG | ACCAGGCAGG | CAGCCTTGCA | 600 |
| | TCTGATAGGC | CGGATACTGG | GTATCTGCCA | AGAGAGG | | | |

1504RP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| 30 | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATTGAGTTTA | TATTAAATTC | ACCACCTCTT | ATTCAATCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCTTAAAATA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAAATTG | 240 |
| | GTAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATWAT | 300 |
| | ATCATTAATA | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAAATGCTGA | AAGCATTAGG | 360 |
| 35 | GGTGTGTACC | TTAGCTCTCT | AATTAAAGTT | ATAAAATTAT | CTTAACTAAT | AAAAATAATT | 420 |
| | AATTAAATAA | ATAAATAATT | AATTAAATTT | AAAATGTTTA | AAAAAGAAA | TAAATAATAT | 480 |
| | GTGATATTTA | AATAGATCAA | AATTTCAACA | ATTTCCATTT | CATTTAGTAC | TACCATCACC | 540 |
| | ATGACCAATT | GTTACATCAT | TTAGTTTATT | AGGTTTACTA | TTAACTTTAG | CTTTTACTAT | 600 |
| | ACATGGTATT | ATTGGTAATA | TTTATCCCTT | ATTATTATCT | TTATTAGTAG | TTTTATTACK | 660 |
| | AATAACTTTA | TGATTTAGAG | ATATTGTAGC | TGAACCTTACT | TATTTAGG | | |

1504UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTTAATT | TAAAATTTTA | ATTAACTATT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| 45 | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAAATGAAA | TTAGTAAAT | 120 |
| | AAATAGAAAA | CCATAAGTTA | ATTGATTCAT | AAAGAAAAAT | GGAATTTATTT | GTGGCATCTT | 180 |
| | AATTTTTATT | ATTTAATTGA | TTATTATCTA | TTTAACATAA | AACATTTTAA | AATGTTATAA | 240 |
| | AATAAATAAG | AAATTACTTA | TAGAATATTT | ATTAATAGT | ATTTAATTTA | ATTTTAATAT | 300 |
| | TAAATATACC | ATTTTTATTA | ATAAATAGAT | TATTAAGTTT | ATTAATATTA | AGTGATATAT | 360 |
| | AATTTAATTT | ATATAAATTA | TTTAATTTAC | TTCATTGATA | TATATAATTA | TTAAATGTAC | 420 |
| | CTTTCATAAT | ATTTATTTTT | ATTAGTCTAG | TAATATTTCT | ATTTAATAGT | CTACCCTTTA | 480 |
| 50 | ATTGGATATT | ACTACCTACT | AAATATTTAC | CTAATAATAT | ATTATTAAGA | ATACTTTAAAT | 540 |
| | CTAATAATTT | ATTATCTAAA | GTATATAAAT | TAATTAAATC | TTTTTTATTA | TTATTTAAAT | 600 |
| | TATTATTAAT | TAGTAAATTA | TATTTATTTA | TTTTAATTTA | CATAATTTT | GATAATAATA | 660 |
| | TACATTATTA | AATGGTAATT | TATTAATAAT | TATCTTTAAT | GATTTAATGA | T | |

1505RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCATCTTT | ATACCATTGG | CTCCTGTTCC | GTGTGCACCA | ACGTAATCAA | AAGCGTGTGC | 60 |
| | CCCCTCGCTA | CGCAGGAAGC | ACTAGAACTA | GCTGAGTAAA | GCAACGGTGA | AAGTCGATCC | 120 |
| 5 | CTGATATATA | TACGAAACCA | GAGATACCTT | CATCACAAGG | ATCTTGTTCC | TCGTGGCCCA | 180 |
| | ATGGTCACGG | CGTCTGGCTA | CGATAGTAGT | TACTTCTGAA | ACCAGAAGAT | TCCAGGTTCC | 240 |
| | AGTCCTGGCG | GGGAAGTCCT | TATTTTTTTT | GTTCCCTCTT | GTTTCAGCTT | TTTGTCTTAA | 300 |
| | AAGGAGCAGA | AAGATTATTT | TGCAGCTCTC | TTTGGCGGCC | AGCTGGCAAA | AGCGAACTGT | 360 |
| | TGATTGACAA | GCTTTTAAAC | TGTTATTAAC | CACCAGCAAC | CTCTCGAATT | TATCATGTCT | 420 |
| | CCATCAAAATA | AGGATATTGC | TGCCCTAATT | GTTGACTTCC | TAACTACGTC | CGCCAAAAC | 480 |
| 10 | GTAGGAGAGG | ATTACGAAGA | TTCCCTCAAA | GTGGCAATTG | ATTGTATCAC | TGAAGCTTTC | 540 |
| | GAACTTGGAC | CAGGCGAAGC | TGACACATTA | GTTTCCGAAA | AGTGTGGCGG | AAGAAGCCTC | 600 |
| | TCTCAGTTGC | TCACCACTGG | CATGGCTCAC | ACCTCAGATG | CAGGCGAACC | GAAGGTAGCC | 660 |
| | GCCGAAGAGT | TGAAGAAGGA | AGCTGAGGCC | TTGAAACTGG | AAGGTAACAG | | |

1505UP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCAAGCTG | GACAAAAACT | TCCGTAACCTA | TCTGAACCTA | CTGGAAATGG | TTCAGGGGTA | 60 |
| | CGTGGAGCTT | AACATGTATG | AAGATGTCTG | GCGAAAGCTC | GTTCAATTAA | ATGGGAAAAA | 120 |
| | TGAGCCTGAT | AGAGTTCCAG | GATATTATAT | TACGAGGTCT | ATCTCACTGA | ACCAGCTTTC | 180 |
| 20 | CACCCAGTATA | TATCCTGAGG | AGTTGGATAA | GTTTAACTCA | TCTCCTGTCA | CCGAGATAGA | 240 |
| | AAAGAGGGTC | GTGCAAGCCA | CTGAGTGTTC | CTCGAACTA | ACATTAACAA | ATAGCCATCA | 300 |
| | TGAAAAGCGG | CGCATACTGA | TATCAACCTT | TCAAAAATTG | ACAACGAAAA | CTTCTCAAGC | 360 |
| | TACTTTGGAT | CCAATGATTG | ACGCAGATAC | CTTACTGGGT | TTGATGGTTG | TTGTAGTTTG | 420 |
| | TCCGCGACAA | GTTAAAAACT | TGAAGAGTCA | TCTAGATTAT | CTTAGAGAAT | TTGCCGAGAA | 480 |
| | TTCCGATGAC | GTAAGATTTC | GGCTCCTTGG | GTATTGCTA | TCGACGCTCG | AAGCGGTGGT | 540 |
| | CGGATATTTT | CATATTGGCG | GCAGCTCAAT | TAAACTTGAA | AGATTGATCA | CACCATGTCC | 600 |
| 25 | AAGGAATAAG | ATCTTCTGGA | ACTTGATAGA | GCAAGGAATT | CCAATAAATT | TAAAGGAACA | 660 |
| | TGAAGAAGTC | CTCATATCGC | GCACCTCCGTC | CTGTGAATCA | TTTGTCTTTT | ATGTT | |

1506RP

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|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTACCGG | TTCGGTATCC | CCCTTTGAAA | ATAAATCTTT | TGTCTTTTGC | ATGCAACTAA | 60 |
| | AATGGGATGA | AGATGCAAGG | GATGTTATTT | TTAAGTATCT | CCATCTTTTG | GAGCTTCTCT | 120 |
| | CACAGGCTGT | AACATTAACA | AGGTCAAAAA | CTCTACAGGT | TATAGAAAGG | CTTTGTACACA | 180 |
| | GAAAAATTAGC | GTATACGAAG | TCCGATGAGT | CTATTTTCAG | CAGCATTAGT | GATATTCCGA | 240 |
| | TTGATGGACA | TGACTTGTCA | ACCGCTGAAA | CATCTTCCGA | AGAGCAGCCG | AAATCTCAAT | 300 |
| 35 | CTTTGTTCGA | GCTATTTGAG | GAGAAAAATAT | ACAGCCCTAAA | CACCGACGCT | CCTTATATGA | 360 |
| | CTCACGATGA | CCACTTCAAT | CAATTTGTGG | CTCCTCAAAAT | TCAATTGAGC | ACTAAGGAAT | 420 |
| | CGCCCGGAAC | TGTGTGTCTT | GTTACTGCCC | CTTCGATGAA | ACTGAAAAAT | ATAGACTTCG | 480 |
| | ATTCAAATAC | TTCGGACAAT | GAGTATWATG | AAAATGTCTT | TATGACGAGG | TACACTGCAG | 540 |
| | CATTGATTCA | AGCAAATGTA | TTTATCTTCC | AAGAAAGTGA | CTATAAAGTC | TTTGAGAAGT | 600 |
| | CATTGTTTAA | TCCCAAAGGC | TACGTTGCTA | AAAGTACAGA | AAATTGGCAA | CCTTGGCTAG | 660 |
| 40 | GACTGGAACT | ATGTTTTGAA | CCGGAGCCCT | TGCAAACTAA | TACGGTTATT | AAAGAAATTC | 720 |

1506UP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTCCCCA | TAAGCTCAAC | ATTTTCGATA | TAAGATATTT | GCGTCCCCCG | CCAAAACACG | 60 |
| | ACGGTCGGTC | CCAAACTCAA | TGCCCCATTT | GCAACAAACG | GCAAAATCATG | ATTCCATCTG | 120 |
| | TCCCTCTCGT | CAATCACCGA | ACTTAACAGT | AGTTGACGCT | TTGTCACTTG | GACTAGATAG | 180 |
| | TTGTGTGGTAA | CGAAGTAGTA | TATCGTGGCG | CCAGCCAAGT | CGTAAGGAT | GCCATCAACT | 240 |
| | TCGTGCGATT | CCATGTCCTC | TTCCGAAGAA | AAATAAAGTA | CAAACGCCCT | GGTTATGGTC | 300 |
| | GCCCCATCAG | AACCAATAAC | CAATAAACCT | TTATAGCGTC | TATCATCGCC | ACAAAGTCTT | 360 |
| 50 | GTATACACTT | CTTCGGCAAC | GGCATCCAGT | CCTATGGTCC | ATATGCTGTT | AAAACGCAGG | 420 |
| | AATTCTCGCA | GGTACAAATAT | GTTTTTAAAA | TGGGCTACAT | GACCATTAGT | TGATATGTTA | 480 |
| | GACAGCACGG | ATGATGAGCA | AGAACATAAC | TCTTCTCTGT | TTGTACCTGA | AATGCGAGGA | 540 |
| | GTTTTATCGC | GGAAAGAGAT | CAGCTCTTCC | GCGTATGCAA | AGCTGGTATC | CTTGGTGTGT | 600 |
| | CTTCTAAGAA | TATTTGACAT | AGACTCCACA | TAGGCTCTGT | CATCGAGGAT | TGCAATGCCA | 660 |
| 55 | AGAGAGATCT | AGCGTTATCT | CAATACCTT | CCAAAACCTA | TAATCTGTAA | TTT | |

1507RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGGCTGC | GCTCCAACGA | TGGCAGCAT | GCTCCTAACG | GGGCTGAAAT | ATATGTCGGA | 60 |
| | CTCATGGCTG | ACTTTAGCGT | CGGCGGGCCA | GACACGTCCA | ATGCGCCCCG | GGGCTGTGTG | 120 |
| 5 | CTGCGGATCC | ACCTCGAAGG | ATGGCGGTGC | CAGATGGTTC | TAGACGGGAT | CCATATCCCG | 180 |
| | AACGCTATCA | ATGGAGTGC | AGATGGCTCG | CAATTCTATC | TGACTGACTC | GCTAGCATT | 240 |
| | ACCATATGGG | CGTGCCCGGT | AGTGGACGGT | AGCCCAACAAC | TCCTCAAGAG | AACCCCATTC | 300 |
| | TACTGTACCA | AAAATACTGG | CAATGACTCA | CACACTTCGC | CGGAACCGGA | TGGTGGATTT | 360 |
| | GTGGACTGCT | TACTGGGCA | CACTTTCGTG | GCCGTGTGGT | CCACTGGCAA | AGTCCGAGAA | 420 |
| | CTCGACAACG | CAGGCAGACT | ATTGCTGCA | TATACACTAC | CGACGCCACG | AGTCAGCAGC | 480 |
| 10 | TGTTGTGCGG | GCCCCGCGAG | CGAAGTCTC | CTGTCCACGG | CGACGCGAGG | CGATTTCAGG | 540 |
| | ACTGGCGCAC | ACTCTGACGG | CGTCGGAGCG | AGCATTTTCA | GAGTGGTAAT | CCCCGGCCCG | 600 |
| | CGCGTTATCC | CAAGCCGCAT | CCCCGCGTCT | TGCGGAAGCA | TCCTTTAAAT | AATATTACT | 660 |
| | TCTACACCCT | CTGCTCCCT | CTACCGCCCA | GCTCATTGAT | GGGCGT | | |

1507UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTACCA | GTATAATACT | GGGAATTGAC | GCGCGCAGCC | AAGGCGTCGT | AATCATCGTG | 60 |
| | CTGATAATTA | TGTCCATAGC | CATCCATWAT | GGAAATAGCA | TCAGCTATTT | GCTTACGGTG | 120 |
| | TTGACGAGCG | ACTGTTAATC | TCCATAGAGA | ATTCTCCTCA | ATAATTTCTG | AGACWGTCTT | 180 |
| 20 | CTTTTTTAAA | ATCGGCTTTG | GCCCCGGACG | TTGAGGGGGG | CCAGTGCTAC | CACCAGACTT | 240 |
| | CTTCTTCGAA | ACCCGCTTGG | AATTTTCGTC | ATCGGAACCA | TAGACAAGCT | CTTCCATATC | 300 |
| | CGCTACGGCA | TTCGCTGTCA | ATGTCTGAGC | GTGACCGCTA | TCAGCTAATA | TAGGCCATA | 360 |
| | CAGCCATGTG | ACGTCCGAGT | CCTTGGACCA | GTTGACAACC | TCTGGGCTCA | CGGTGCGTAG | 420 |
| | ATTATTCCGG | GCTTTGGCCC | ACCTCCTCCA | GGATGCGTTC | TCGAGCCGCG | CCGCGTTCAC | 480 |
| | GAGGTCTGCT | TCTCCCTTCT | GTCTCTTCTT | CAGGATGATG | TACTTCCAGG | ACTGAGAGAT | 540 |
| 25 | GTCTCACTCA | CCCCAGTCGT | GCGAAAGGTA | | | | |

1508RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCCACAGG | CAAAATTTAT | GCATATAGCT | TGCTTATATT | TATGCGGTGG | ATTCTATATG | 60 |
| 30 | TCGCACGCTA | AATACTAATA | GCCGCCGGTA | AAAAGTAGTC | CTCGGCAAAAC | TCGGTAACGG | 120 |
| | CAAGGTCCGA | ATTATAGAAA | CGGGACTCAG | AAAACTAAT | CCAGAGTAAT | TAAGGGACTC | 180 |
| | GGAAAGCGGA | GCCGGTTCTT | ACCGAAACCC | TCAACGGGAG | TATATGAAAA | AATTTATCTT | 240 |
| | GCAGATTATA | CCCATGCCTG | TTTTATCCAA | GGTAGCCCAA | ATATATACTA | CAGGAATGA | 300 |
| | GTGACTTTTC | ACTTCGAGAG | CCCAATAAAC | AATAATTTTA | GTAAATTTT | AGCATTGCTG | 360 |
| | CTACTCCAAC | TTTCCAATGA | ACACTTCTGA | AAGCGTAAAT | ATATAGCTAT | GCGGTTTGCC | 420 |
| 35 | TCCCAGGCTC | TAACTACAAA | TTCCACCTTA | TGTGTGTTAT | TCAGGAAATG | CAGGGGAATA | 480 |
| | GTTGAATCAA | CGAAATAGCG | TTAATTTGCA | ACCGCTTGT | ACGTGTATAA | AACCCACCCC | 540 |
| | CCTCCGAAAA | AGATGACTAT | CGTTATAAAC | TAAAAACAT | CATCAAAAAA | GAACCTAAGTT | 600 |
| | ACTGAAAAGA | AAATGGTTTA | CCGTCTAGCA | GTGAATTTCA | GCAACCAGCC | CACATGGGTA | 660 |
| | ACCAATTTCC | GAATCTATCG | TGCGAATA | CT | | | |

1508UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGTAA | CGACTAAATA | AGAATCCTTA | CGCAGCAACG | CCGGCCGCGT | CTCGGCAGTG | 60 |
| | TAGTGTCTCT | CAAGTGCGCG | TCTGGCACTA | GTTAGGTCTT | GCAGGTGCGC | TTTGAACCAG | 120 |
| 45 | TGCGGCTCGG | TAAGCACCGA | GATGGCGGAA | ACTCCGCGCT | CCGCATATGC | AAGCGCTGT | 180 |
| | TCTGTGCAA | GCGCTCGCT | AATATTGCCA | CGCGACGGAG | ACGCACGTTT | TATCTCGGCT | 240 |
| | ACCACAGCCA | GCCGCGGGGC | GTCCCGCGCC | AGCCGCTCAT | GGAAGTCCAC | CACGCCCGGC | 300 |
| | AGAACCCCCA | ATCGAAAGCT | CGCCTCCAGG | TCCGCCATAC | CAGTTCCTCG | CATAGCCATC | 360 |
| | TGCGCTGCCA | CGTCTCCTG | TGCTTGAGCG | TATATCTCGC | TCAGCACAGA | GCCCGCGCCT | 420 |
| | GCCCGCAGCT | GGAGCTTGTG | GTCTCAGCC | CACGTACCGC | CTTCCAGCGC | TAGCATGTTG | 480 |
| | CGCACCATTA | GCTGCCCCGT | GTCCGTGAGA | ATCGACTCCG | GGTGGAACTG | CACACCTCC | 540 |
| 50 | ACGGTGTACT | TGCGGTGCGG | CACGCCCAT | ACCACCGCTG | TCTCCGTGCG | CGCGTCAAC | 600 |
| | TCCAGCTCCG | CCGGGAACGT | TGACGCCAGT | CCAGCCAGCG | AGTGGTACCG | TGTCACTGCC | 660 |
| | ACGGCTGGGG | TACCCCTGGA | AGAACCGCGC | CCGTGCTGAC | GCAGCTCCGA | CGTTCT | |

1509RP

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|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCAGTTT | CTCTCGCATT | TTCTGAACGA | TGAGATATGA | GTCTAAGTTG | GCTAGATTAC | 60 |
| | TATATAGCCA | GTTGTTTCGCT | CGACGGGCCA | AAACCGAGAC | CGGTTCCCTC | CTTTGACAAG | 120 |
| 5 | AAGAATAATC | GCCATCTACT | TTGTTTGAAT | TCTTTAAACC | GTCTAACTCT | TGCAGTACCG | 180 |
| | TTTTTGGTAC | TACTATGCGA | TAGCTGTATT | TTGGGGCAAG | CACTCGTAGT | TCTTCAAGGA | 240 |
| | TATCCAGATG | TGATAACACA | TAATTAGTAT | CAACGACCAG | TGCAATATTA | TGCAAGTCTT | 300 |
| | GCCGCACTTC | AACCTGCGGC | TGAATTACTT | TTGCGAAAAGT | CTCTTCGCCC | GGAATATCGA | 360 |
| | CTCTCTTGTC | AGGAATAGTC | TTAATGTGTG | TAATTTTCATG | GCTGTGATAT | TCGTCTATAT | 420 |
| | CCATCATCGC | TTCAGCTTCG | TGTTCCCTTA | TAATTTCTGC | TTCAACCAAT | GCATCCAATT | 480 |
| 10 | CTGCAATGCT | ATATTTCTTA | TTAGAGTGCT | TAGGGTTCCA | AGTATGCGGC | GAGCTTATGG | 540 |
| | TATGCGTCTT | ATTCTGATGC | CTACGCTTGC | TCTTCCTCCC | ATGGTCCCTA | GACATCTCCT | 600 |
| | GTGTAGCTTG | GTGCATAGAC | TGTATATGAT | TGGACTCCAT | CGGAAC TAGT | GGCAGGTTTA | 660 |
| | AAAGACATTA | ATTAGGTATC | ACCTCCATTA | ACGTACCTTT | GATATTTATT | ATATGA | |

1509UP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|-------------|-----|
| | GATCTCGAGT | TTTATGACGA | GTGCATGGAA | GATGTGTTTC | TAATTGCAAC | TAAGGTCCGT | 60 |
| | AAGGTCAGTG | AGGTGCAGTC | CTTTATCACT | CTAAAATTCC | CCTCTTCCTT | TGATGATGAG | 120 |
| | ATACTCGAGT | CATCGATGCC | AAC TACAAGT | CACCATCAAG | ACTTAACAAC | TCAAGACGTA | 180 |
| 20 | CTTGGTGGAT | TGGTCGATGC | TATGATGATG | AGGCGCGACC | AAGAAGACGA | TATCGATTTCG | 240 |
| | CAACAACCCC | TGGATGTACT | TCCTTTGATC | GGCTGCGACA | GTCCAGTTTC | CAACTTGCCG | 300 |
| | CGGATTACGG | GGGTTGCTCG | TTCCGAGGAT | CGAGACGAAT | GGGATCTTGG | ACAGAGCAGT | 360 |
| | ATTACTCCTA | ACAAACTAGA | AATCCATTTC | GTCCAGACGC | CTACCACACA | CCGTGTGCGT | 420 |
| | GTGCTAGAAG | AAGAACAATC | GCCTTTGATC | ATGCTGCAGA | AGCGCAGACT | AGCCAGGAAT | 480 |
| | GGGTCAAGAA | CATTAGCCAC | AGCTACAATC | AACCATGACC | AGGAAC TGCA | ACTAGAAGTG | 540 |
| 25 | CCAGATAGAG | AAGCCGCTTC | GCCTGCCATT | GAACACGAGC | AAGCCACCTC | | |

1510RP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCAGAATT | GGAGGGGATG | TTTGCCCGAA | GAAGTTCGTG | ATATCGAGGA | GCCCCATA | 60 |
| 30 | CCCGTCATTG | GCCGGAAGTT | TTTCAAGTAC | GAATCTCCTA | TAAAGCACTT | GCTACCCCCC | 120 |
| | AACGCCACTA | TAAACGACCC | CATTCCTCAG | CCAACTGAGG | GAGCGGTCAA | TGCTCCACCA | 180 |
| | TTGGTTGGCG | CCGTTTATCT | ACGCCCAAAA | ATTAAAAAGG | ACGACTTAGG | TGAATATTCC | 240 |
| | ACCTCCGATG | ATTGTCCCAG | GTACATTATC | AGGCCTGGTG | ACCCGCCCTGA | GGTTGGTAGA | 300 |
| | ATCGACCCAG | AAACGGGAAC | CATCATTACC | AATTCC CAGA | CCGCCAGTGT | ACTACCGAAA | 360 |
| | ATGAATATGT | CTACACCACG | TCTGTCTGCT | TTGAAACCGCA | ACGGTAGCTA | CTCGAATTTG | 420 |
| 35 | ATAGGCCGTT | CCGGTAGCCC | AATTAACATG | ACCAGGTCCA | CCCAATACTT | CGCACCAGTT | 480 |
| | CCTAACGGCG | ATCTGAGAAA | TCTGCCAATC | GTGCAACAAA | TACCGAATAG | CACTATCCCA | 540 |
| | TCTGCGCAGT | CGTCTGCAAA | AGGCGGCATA | CAGGGGGACC | ATGGGCGGTT | CAATTAACGG | 600 |
| | TACTACCCCT | GCATACCAAC | CCCCTTCCAT | TATTAATAAC | CTAGCCGCCC | AGGCTAAGAC | 660 |
| | AAACAATACC | GTTCTTGGA | ATATCTTGGT | CGATACGCCC | GGTGCCTACG | TTCTCCTATA | 720 |
| | TCT | | | | | | |

1510UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCCGCT | ACTGTTCTAC | GACCACCGCG | GGGGGCTGAA | CCTGGCGATG | GGGTTCAAGC | 60 |
| 45 | TGGAGGACCC | GCACGCGCGG | GGGAACGAGC | GGCGTACTG | CCTGGTGCTT | ACGGTGGACC | 120 |
| | TGCGAGAACG | GGCGCCGGCA | ATGGAGATCG | TGTCGCAGCA | CTGGAAGTTC | ATCTCGGGCG | 180 |
| | CGTTTCGAAA | CATGATCGAG | TACATCAAGC | AGCAGCGGCG | CGCGGAGCTG | CTGCGGGTGA | 240 |
| | TGCAGCAGGG | GCAGGTGCAG | GGCACATCGA | ACTTTTCGTC | CATGGTCAGC | GGCACCTATC | 300 |
| | TGCGCGGGAA | CAACCTGAAG | ATACCGAAGA | ACATCAACGA | GCTGACCAAC | GATAGACTGC | 360 |
| | TTTCTGTCAG | GATACACAAG | TGGAATGCAT | TTATAC TGA | TAGACTGGGA | GGCGAGCTGG | 420 |
| | ACTGAACCTT | TGGGGCGGTG | GCTGCGCGGC | AACAGTTGGA | AGATAGAAGA | CAGAAACGCC | 480 |
| 50 | CGGGAAGCCG | AGGCCGGAGG | TCGGAGCGGT | TACATAACTT | ACATTCTTAA | CTAGATAGTG | 540 |
| | TTCCGCTGTA | CATCAAGTTC | AGACGTTAAG | GTTGAACGCG | GCATCGGTGA | TGTGTTCCGT | 600 |
| | GAGGGGGGCC | AATGCAGATT | TGACGTCTTT | GTTGATGAAC | TTCTCCACCT | GCTGTGGGGC | 660 |
| | CCTGCCACAA | AACGTGGAGG | GGTCCAGCAG | GGA | | | |

1511RP

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|----|-------------|-------------|-------------|------------|------------|-------------|-----|
| | GATCGACCAAG | CTGGTGTATGG | ATAGGCGGGCT | GGTGCCGCTG | GGGCGCTTCG | TGCGGGGGGCC | 60 |
| | CGATTTTGGG | CTGTTGTCTG | GGGTGAGGTG | GACGCTGCAC | AAGGTGGTGG | ACCTGTCTGT | 120 |
| 5 | GAGGAGCCGG | GTGCGGGAGA | ACGGACGGTA | CCTGCGGAAC | TGCGCATACG | TGAACATGGA | 180 |
| | CGTGCTGGCG | GCGCGGCACG | GCGCGGTGGA | GGGGCGCTCG | GAAGAAAAGG | TGGTGGCGCG | 240 |
| | GGCGACGCGA | TATACGGACC | TTGTGTTCTC | GCGGGAGGAG | TTCTACGGCG | TGGTGCGGGA | 300 |
| | GAGCCTACGG | GGACGCGGGG | AGTACGATGT | GGTGCTGGCG | GACCTGGACA | AGCACCGCAA | 360 |
| | GGCGATTCTA | GTGGACGGAG | ACGTTGTGAA | GGTGGTGATG | CCGGCGGTGC | GCGCGCTGGT | 420 |
| | GCAGCCGTTT | GGGCCGTGACC | GCGTGACCGC | AAACGACCGC | CACATCGCAG | AGTTCAAGGG | 480 |
| 10 | CTCGCTGCGA | TTGGTGGAGC | GGCAGGTCCA | AGCGATCCAC | GGGCACGTCG | AAGAGACAAC | 540 |
| | CCGGGCGCTG | CGTTGGCGCC | GTCCCAGCGG | GCGCCGCACC | CGATGTGCAG | CGGCGGTACC | 600 |
| | TGCGGATGAA | CAACTCGCGC | AGGCCAGCCT | GTCTCGCGCG | CTCAACCAGT | TTACGAACCT | 660 |
| | AATGGAGATC | AAGGAC | | | | | |

1511UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTGCCC | CACGGCCCCGT | CGCTCAAGTT | CCCCCGTCC | GCCACAAACG | CCCGGAACAT | 60 |
| | GCCGTCATCC | ACGCTGGGCT | CGCTCCACGG | CGTCTCCCCA | GTCAGCAGCA | CAAACACAAG | 120 |
| | CACCTCCCGCA | GACCAGATGT | CCGCGGTGTC | CGCGTGGTAC | GCCCGCTCGC | CCACCACCTC | 180 |
| 20 | CGGCGCCAGG | TACGGCAGCG | TCCCCGCGCG | GTGCGCGCGC | AGCCGCGCGG | TCCCGTCCGG | 240 |
| | CCGCGCGAAC | CGCGTCCGCC | GCCCGAAGTC | AGCCACCTTC | AGGTTCGCCG | CCCGGTCCAG | 300 |
| | CAGCATGTTT | TCGGGCTTGA | TGTCCCGGTG | CGCCACGCCG | CACGCCTCGT | GCAGGTGTGT | 360 |
| | CAGCGCCCGC | ACCAGCTGCT | GGTAGTAGAA | CGCGCCACCT | CCGAGTCCAC | CCCCACGTCC | 420 |
| | GGCTCGATCT | TGTGGAAGAG | GTGCCCCCGG | TCCGCCAGCT | CCATCGCGAT | CCATAGGTAC | 480 |
| | TCACGTGACA | CATGCGAGTC | CAGCACCTTC | ACCATATGTC | GGTGCCCGCG | CACCGCTCT | 540 |
| 25 | GCAGCACACC | TCGCGCGTCA | GATCCTCGTC | CGTCATCCCT | CGCGCTTTGC | AGCGCTCGAA | 600 |
| | GTGCACGAAC | TTACAGCCA | CTATCGTCTG | CGGGTCTGCG | CGCAACGAAG | CGGTTTTGAA | 660 |
| | GAACGCAACG | TGCCCTGCCC | AATCGTCTCC | CGAAGCTCTA | ATTCTTTAAT | CTCCGGGAAG | 720 |
| | CA | | | | | | |

1512RP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCTTGACT | GGAAGGATGA | GGAGCAAACC | CCCGACAGCG | GAGAAACTGC | TATTTGCGTG | 60 |
| | TCTACACGCG | GCTCTACTCG | CATCCAAGTT | TAGCTATACC | TGCACTATTA | CTAGATATCT | 120 |
| | AATGCCATACC | ATATGTTGTG | ATGACACTGA | CATTACGCTT | TTAACCACCT | CAGCTTATTA | 180 |
| | AAAGATTCCA | GACATACAGA | AAAAATCCGG | TGTTAAAAAGT | TATACATATA | CACCATTTTA | 240 |
| 35 | CCTATATACG | TGTAGACGAG | TAGAGCTACT | AAGCAGCCCC | AGAAACACTA | CCATATTCAT | 300 |
| | AATGGCAGCG | CTAAGGACTT | TGATGCGTGT | CCGTATGTGC | CGAGGGTTAT | AGTGCACACA | 360 |
| | CGATGCAGTA | CTAACAGTCG | TAGCAAAAAC | CGACCAGCAG | CACGTCCGTC | GGTCATCTCG | 420 |
| | CGGGGCGATT | ATGTCCATAA | TGATGTACCT | GTTCTCTGCTG | TTTATCGCGT | GGGGGGAATT | 480 |
| | TGGCAGCTAC | TTTGGGGGCT | ATTTGGACGA | ACAGTACATC | ATCGACCCCG | AACTGCGGCA | 540 |
| | GACAACGCGAG | ATTAACATGG | ACGTGATGGT | GCAAAATGCCG | TGCAAAATACC | TCGACGTCAA | 600 |
| 40 | GGCAACTGAT | ATTACCAGGG | ACATTAACGA | CGTGTGCGAA | AGACTGGTGT | TCAAGAATAT | 660 |
| | CCCTTTCTTC | GTACCGTACG | GCACCACATT | TGACTCTGTT | AATGAGGGTC | CGCACCCCGG | 720 |
| | AC | | | | | | |

1512UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCGAATGG | CATCCCATTC | ATCCGATGAG | GACGCTATGT | TAAATAAATA | TTATCTATAT | 60 |
| | ACTCTAAATA | CTATATGGTT | TCATCCGTGT | TACCCGGATT | TAGAGATGCG | CGTTCTCGTC | 120 |
| | TCCAAGCTTT | AACCTCGTGT | GCTGACGATT | CTACATAACG | TGTATTGACC | AGGCTGAGCA | 180 |
| | GTAACGTTAG | CAACTTGGAC | ACCAGTTATG | AGTACCGATT | TCGACAGAAT | TTATTATAAC | 240 |
| | CAGTCAAAGG | TGAGCGGTG | CTTCCGTTTG | GGCGAAGGTG | GCCTGGGATG | GAAGGCTTCC | 300 |
| 50 | GCCACTGGCG | GGTCCGGTGC | CATGCAAAAC | AACGAACCAA | TTCTCTTGAC | TGCGGACGAA | 360 |
| | CTGGCTTCCG | TGCAATGGAG | TAGAGGGTGC | CGTGGCTACG | AACTAAAGAT | TAACACGAAG | 420 |
| | AACAAGGGCG | TGGTGCAGTT | GGACGGTTTC | TCGCAGGAAG | ATTTACATTT | GTAAAGAAC | 480 |
| | GATCTCCAGC | GCAGATTCAA | CGTGCAATTG | GAACACAAGG | ACCACTCGCT | TCGGGGATGG | 540 |
| | AATGGGGTA | CTACCGATCT | GACAAGAAAC | GAGCTGATCT | TCTCCCTAAA | CGGGAAACCA | 600 |
| | ACTTTGCAAA | TACCATATTC | GCATATCAGT | AACACGAATT | TAACATCAA | GAACGAAGTT | 660 |

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GCGCTGGAAT TCGACTTGC

1513RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAACTGT | TGCTCCAGTT | GCTCCCTTGA | CTTGGTTCTC | AATTCAAAAG | CTTTAACACC | 60 |
| | GGCCTGAGAT | GAGATGTTAG | TACTCCGCGC | ACCTATCAAG | CTTGGGAATGA | CATTGCTGGC | 120 |
| 5 | AACCTGCGGG | GCCGCATCTA | CCCGCTGGCT | ACCGCTCGCT | GGCTAACCCG | GTATGCGCTG | 180 |
| | CTGTGCGGCA | CTTCTGTCCC | ACGGATTATA | GCCCTPAACG | GTCACCTCGA | TACCCAACGA | 240 |
| | AAAGCTGCAT | GCCATCATCC | CACGCTATAC | ACCGCCTGAC | ACATACCATT | ATGATTGATT | 300 |
| | TTGCTGTATT | TTGCACTAAG | AGCCACTCCA | AATGAACTGC | CTCTTCTGTT | GAAGATGTTG | 360 |
| | GCCTGCTGTG | GAAACCGACT | GTGCTCCGCT | CGGTGTGCGC | GAGCGAGTCT | GTCGGACGAC | 420 |
| | GCAGAATCTT | CAGCTATACA | ACCCACACAC | CTCCGAATGT | ACGGATGCAA | CAGTCAAACA | 480 |
| 10 | CAATTCACAA | TCACGTGACC | TACAGGTGAA | ATTAACGATT | TCGGCAGATC | GCAAAGTGAG | 540 |
| | CGCCAAAGGC | GCGACGGAAC | ACCGGAGCGG | GTACACGATG | GGTGCAGACT | CTTACACTAT | 600 |
| | ATATCGATGG | TAACAGTGCA | CGCACAAAAA | AAAGTAGTAT | ACTAGGGTCT | ACGAGACTTC | 660 |
| | GCTAGTTCAT | TTACAGCCTA | ACCTAAAGAT | TAATTATGCC | AAGACAGTGA | TTGGAAGGAG | 720 |

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1513UP

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|----|------------|------------|-------------|-------------|------------|-------------|-----|
| | GATCTTTTAA | ATTTGGCAAG | AACAGCCAAC | ACTCCCGTCA | AAATAAAGAG | CAAAGCGCCT | 60 |
| | CCACACCTCT | ACGAATCAGG | TCCGAAAGGC | GATCTTGCAA | TGACGAGCAA | GGTTACAAAG | 120 |
| 20 | AAAGTTAGAG | AGTCGCACAG | TGCATGTGAC | GACCAGCAGC | ATAGTTCTCG | GGCTCGCGGC | 180 |
| | ACTGCAGCAG | AGGGAGCGCC | TAGTAACGTG | GTTCAAACCGT | CCCTCGGTGA | TTTGAAGAAA | 240 |
| | CTCGCAGAAT | ACACACTCTC | CACCCCTACG | TGGAACGAGT | GCATTAATAA | ACGGCTCGCG | 300 |
| | TCCACGAACG | TGCAGGAGGT | GAAGCTGGCG | GGACTGCGAT | TTCTGTTTAA | CAAGACGCTA | 360 |
| | CTACTGTGTC | TTTACATGGC | ATATGCGTTC | TACCGATACT | TCCAATACCA | GTACAACAGG | 420 |
| | CTGCGTATCA | AACTACTGAA | TCGTGCCCTAC | TCGCCGTCCA | ATACCCCGCA | GCTGATCAGA | 480 |
| 25 | CAGGACGTGC | TAAAGTTGCA | GAAGGTCCCT | AAGCGGCTGG | CAGCGATTTT | GGCATAACAAG | 540 |
| | TCTGAAGGGG | AGGTCGGCGG | TGGCGTCCAC | GGCTTGATAA | ACGACGGAAG | CAACGTANTA | 600 |
| | TGCTGGACTG | TGTCTGCGGG | CATCAAGCAC | CTGTGCGTTT | ATGATCATGA | CGGGGTGCTC | 660 |
| | AAGGCCAACG | TGCACCAAGT | CCGCCAGGGC | GTGTACGATA | CCTGGCGCGC | TACTACGGCC | 720 |

CAACAA

1514RP

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|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCTGCGTG | TATATTGGA | TGTATATGGA | CTTCACACTT | TCGGAAGCAA | TGGAAGCTGA | 60 |
| | AAGCTGGTTG | ACCACTCTGC | TGTATTCTCG | TAGTCTTTCT | GAAACGACGG | TAAGAAAATT | 120 |
| 35 | AACCTTGAGC | GGCGATAGGG | AAGATGCAAC | TTTAAATTTT | TCTACTTGGT | TACTCAAATA | 180 |
| | CTGATATAAT | AATGCAGCCT | CAATATATGCT | GTGGAAAAACA | CCACTTTCGC | CGTTCCGAAC | 240 |
| | ATTGGGTGGG | ATTTGATATA | CCTGATTTGA | GATCGGGAAC | AAACTCGACG | TAGTAGCCAG | 300 |
| | TAACGTGTAG | GAAATATACT | TTAAACCGTC | GGCCTCGGGC | ACCATGTTGC | TGTAGTATGG | 360 |
| | GTTAGACAGT | TATGCCAATG | GAGTATCGTG | CTGCTGCGGC | CGCTTGGGGA | CCGGGCCGCG | 420 |
| | GTATGCAGAG | GTTACCGCCG | ACCGGCGCTC | TGAAAGCCGC | TCCACATTCT | CGAACGACTC | 480 |
| | TGCATAGACA | CTAACCGCCC | TCGACGGCGT | CATCAGCGAG | TTGTGCCGTT | GCAGCGTGCC | 540 |
| 40 | GTTCGTAAGA | TATCCAGACG | CGGTGCGCCT | GTGTGCGAAG | GGCGTGCTCT | CCTGCGGCAC | 600 |
| | GCTGTTTACG | ACCGTCAGGT | ACTTCAGCAC | CTGCTCCTTG | CTACCGAAAC | TCTCCAGCAC | 660 |
| | TTTCACGAAC | ATCTCGAACT | TCCCCCACTG | CTGCGTCTGC | TCCGGCGTCC | GCACCATCTC | 720 |
| | CGCCCCGTAC | ATGCTC | | | | | |

1514UP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTCCACC | GCGTCCAGCA | CCACGATCCG | GTCACCGTCC | CACCGCGTCA | TCGCCACTGT | 60 |
| | CCGCGCGACG | CTTTCGAAAA | CCGCCCCGTC | CTCCGCCGTC | GCAGCCCCCT | CCCCGCTGTC | 120 |
| | GTGCGTCCGG | TGCTCGGCCT | CCCGCGACCG | CAGCGTCGCG | ACCACCCGCT | CTATATTTCAC | 180 |
| 50 | GCCCCGGGGC | TTTACGCTGT | CGCGCTTGAT | GCCAGGGCTG | GTGGGTTTCT | CTCCCACCAC | 240 |
| | CTCCAGGCTC | TTGATAAAGC | TCGTCTTAAT | CACCTTAAAG | CTCGCAGTAT | GGCCCTTGCG | 300 |
| | CCCACATAGT | AGCGTCAGCG | TATGGTTTTCC | CQAATCGTAC | GCGTATATCT | TGCCCTGTGT | 360 |
| | TACACCGTGC | AGGACGTTGG | TCACCCGCAC | CTTGAATCCA | AGGATATGTT | CCAAGTTGAT | 420 |
| | GCTCATCTGT | CTCACTTTCA | AGCCCCACAC | GCTATCCTGG | CCACCTTAGA | ATGCCACGCC | 480 |
| | TGCTTCCCGT | CCACTGGCTG | ACTCCCAATC | CTTCAGTTTG | CGGTGTGGGT | ATTTTTTTGA | 540 |
| 55 | AGTGGCGCTC | TAGCGATGAA | GTAAGATTTT | CTATGTATTA | CTATGTGCGA | CAAAGGTTAG | 600 |

TTCCAATAGT GCTTGCAACT ATCAGGTGCT GTGGAGTTCC CAAGCAGACG AGTTGCTGAT
AGTGGAGCCG ATAGAGAATC CGATAAAGAT TATTCCCGAA AATCTAAGGA CAGGTGG

660

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1515RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCTTCGC | CGCGTGGTCA | AAGCCCGGAT | AGGATATCAC | AGGGCACTGT | GCAAAGGTAT | 60 |
| | CGCATATTGT | TTCCATGAGC | GTTTCGCCCT | TCGGTCTCTT | CGCCGGCTTC | CACTTGACAG | 120 |
| 5 | TGGCCGCCAG | GAGCTTACAG | AGCTGCAGAT | AGTTATTACT | GTCAAACGTC | CAGGGTGCCC | 180 |
| | CGCGCCGTTT | GTGCGCCGCA | GCAGCATCCG | CGAAGTGGTC | CAGGTGCGCC | CGCGACAGAT | 240 |
| | GGAACCCGTC | CATGGGCACC | ACCTCAGCTA | TATTGACCGA | TGACGCTGGA | TCAGGGCTT | 300 |
| | CGCTCGCGAT | GCGCACCAGAA | TTGGGGAGCC | CGCCCGCGCC | GAAGATAACT | GCGGTCCCAT | 360 |
| | CCCCATCGTA | GAACCTGTGT | GGCTTGAACC | CCGGGTCTTC | CACGTGCGCG | AAGAACCCCC | 420 |
| | GTGCGCGCTC | CTCGACCAGG | GCGCCTGACG | CAACCGGCAC | AGTCTCGTCC | AGGCTTTCCG | 480 |
| 10 | CAGCAATGCC | CGCGGAAATC | CTCAATCCAC | CCCTTCGTGC | CTTCAGGTGA | CTCTGGAATT | 540 |
| | CCTGGTTTCA | GTCCCGCTTA | AGCCTCTGCG | CCATCGTAGA | CTTGCCGGAC | CCAGGATGCC | 600 |
| | CCACCACCAC | TACAGCCACC | CGATAGTTGC | TCTCGATATT | CTGAGCAAGG | AGATCCCACA | 660 |
| | CTCGCTTCTT | TAAGTCTTCG | TAGTCCATGC | CGCTTGCTGT | GTATGCCTGC | TGGT | |

1515UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAACGC | CGGCTGTCTC | CTCCAAGCGT | GTTCCTGCCT | CTCTTATATC | TGTATCTGGT | 60 |
| | AGCTTCAGCA | TTAAAAAACC | GTCCAGAGAA | TTGGCTTTTC | GCCATGCTCG | AAAGCTCACT | 120 |
| | AGTCGGAGCG | CAGCATCTAG | GACACCAGTA | GGATGCAGAC | AGTGTTTAGG | CCATTGAGAA | 180 |
| 20 | GTGTGATTCT | GACGCCCGCT | CGAGGCTTGG | CGCGGTCCAG | CAGGCTGCAG | TCGGGACACA | 240 |
| | ACAAGTGGTC | GACGATCAAG | CACGATAAAG | CGAAGAACGA | TGCTGAGCGG | AACAGGCTTT | 300 |
| | TCACGCGGAT | GGCCAACCA | ATATCGGTGG | CAGTCAAGCA | GGGCGGGTCT | GCCGACCCGA | 360 |
| | CGCTGAACCT | GCGACTGGCG | GCGGCGATAG | AAGCGGCTC | CAAGGCCAAT | GTGACCAAGA | 420 |
| | AAGTGATCGA | AAACGCAATC | CGCAAGGGCG | TCGGCGAGGG | TGGGGCGCGC | GACAACGCGG | 480 |
| | AGGCATGCAT | GTACGAGGCG | ATACGGCCCG | GTGGCGTGGC | GTTTGTGCTG | GAGGCTCTAC | 540 |
| 25 | CGACAACAAG | AATCGGACCG | TGACCTGGTA | CGCGCCGCGT | TCAACAAGCA | TGGCGGCAAC | 600 |
| | ATGTCCGCCG | CTCAGTACTT | CTTCGAGCGC | CGCGGGTACG | TGGCAATCCA | GCCACCGGCC | 660 |
| | TCGTGCGAGA | GTTACAACGC | GGTGTTTGAG | GTTGTGTCCG | AGGTGAGGGG | CGTAGAAGAA | 720 |
| | CTGGA | | | | | | |

1516RP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCGACCT | TTGGTGGCTT | GGCTCGAGTC | TTTCTTCAAT | TTAAACCCCT | GTTCAACAGC | 60 |
| | AGATGAAATT | GTTAGTCTAT | CGAGTCCACG | TAAAAGACAA | TTTTCGAAGC | TTGAGATGAA | 120 |
| | GGGTACGGCC | TCTCCCGACA | AGCGGCATCG | CCTGCACCGA | AAAGTATCCG | GTCACTCTCT | 180 |
| | CATCATACGG | TACCTTCACT | ATCTCTTTCC | GCCGGAAACT | AAATACAGAA | ACATACCTTT | 240 |
| 35 | AACATCCTTA | TTCTGTTTAT | CCTTTCCTGA | TTTCGACTGG | AATGTAGCGG | CGAAAGGGAT | 300 |
| | CTGTTTCAAA | AATTGGAAAC | GCTTACCACC | TCACCAACAC | ACCAGGACTT | TATTTCCGTAG | 360 |
| | AAACAGGCGA | TCGGCCTGAA | CAACAGTCAC | TAGAAAACGGT | GCACCAAGGC | AGCTTGGCAA | 420 |
| | CGAGGAGGCA | CCCTAGGGCT | CAATGCGTTG | ATAGTAAAGC | ATGTACACGA | GCTTTGTCTC | 480 |
| | CGAGAGAAGG | AACGACGCT | TGCACTCCGA | CACGTACGAA | TCTGAGATAC | ACCACCACGG | 540 |
| | GTGCGTAGTG | GTGCGACGTA | AAGCCTTCAG | TTTGCGGGGA | CGGCCTGGGG | ACGGGGGAGT | 600 |
| 40 | ACTTCGTGGC | AGCCGAAGAT | ACGCCGATGA | GCTCGCAGAG | CTGGCTCCGG | AGCTGTCTCT | 660 |
| | CTCGGCTGAC | GCGTCCGGCT | TGGAGAC | | | | |

1516UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCATTAAC | GAAATTCTTG | TGGTTGATTA | CGATGTTTGA | TGGGAAGATA | TAGCTGGTCT | 60 |
| | TACAATAGCA | AAGAAGTGT | TGAAGGAAAC | AGTTGTTTAC | CCATTTTTCG | GGCCAGACCT | 120 |
| | TTTTTCGGGGT | CTCCGGGAAC | CTATCTCCGG | GATGTTGTTA | TTTGGACCTC | CAGGAACAGG | 180 |
| | TAAAACGATG | ATTGCCAGGG | CCGTTCGCGC | TGAATCGAAT | TCAACTTTCT | TTTGCATCAG | 240 |
| | TGCTTCTCT | TTGTTATCGA | AATACTTGGG | TGAGTCGGAA | AAACTTGTCA | AGGCCTTATT | 300 |
| | TTACTTAGCC | AAACGGCTTT | CCCCCTCAAT | TATATTCAAT | GACGAAATCG | ACTCTCTACT | 360 |
| 50 | AACTAGCCGT | TCAGATAATG | AGAACGAATC | ATCCAGAAGG | ATTAAGACGG | AGCTCTTGGT | 420 |
| | CCAATGGTCC | TCCTTAACGA | GCGCCACGGC | TAAGGAAACA | AGAGAAGGCG | AAGAGGCCAG | 480 |
| | ACGCGTTCTT | GTCCTTGGCC | CAACCAACTT | ACCGTGGGCG | ATAGATGATG | CTGCTATTAG | 540 |
| | ACGTTTTTCA | CGGCGTCTAT | ACATTCCATT | GCCGGAATAC | GAAACAAGAC | TGTATCATTT | 600 |
| | GAAGAAGCTT | ATGGCCCTTC | AAAAGAATGA | ACTTTCTGAA | TCTGACTTTC | AACTCATTTG | 660 |
| 55 | TCGCATGACT | GAGGGCTACT | CGGGATCTGA | CATAACTGCT | CTTGCCAAAA | GAAGCAGCTA | 720 |

TGGA

1517RP

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|----|-------------|-------------|-------------|------------|------------|------------|-----|
| | GATCAATGAA | AAACATGCAT | ACGATTTTCAT | GAAGCAAAAT | TTGGCTTGGA | ATATTGCCAA | 60 |
| 5 | CTCTATTTCAC | AAAACAGAAA | TACTAAAGGA | AGAGAACTTC | ACGTTATTAT | CCAAAGCCCA | 120 |
| | AAGAGATGAC | GTGAAAGGAA | GAGAAGCGGA | GTTATTACTT | CCAAGCGAAT | TAAATCAATT | 180 |
| | AAAGATGGTC | AATGAGCGTG | AGCTGAACGG | CCATGCAAGA | AAAATAAGAC | TACTATCCAT | 240 |
| | GTGGGAAAGTC | TTCAAAATGC | TTTAGGTTCT | GCATTATTAT | ATACACATTG | TAGATACAAC | 300 |
| | TCGAAACTAA | TGCATTTTCAC | GTCAGCAGTC | TAAAAGTGGT | CATGCAGTAA | CTTCACACCT | 360 |
| | TCTTTTATTCC | AAGGACAAAG | GTATATTCCC | AGCTGTGTCT | TAGACAGTGT | CCCCAGCTTG | 420 |
| 10 | AAACATGTGT | TACTCAAAATG | GTTGGCAGTA | ACCTTACATT | GCCCAGAATG | GGTGATGCGG | 480 |
| | TTAGAAGTGG | TATAATCCAA | CTGCTTCCAA | ACATCAGCGT | TATTAGGTGT | AAAGAAAGCG | 540 |
| | GATCTCTGCC | ACAGAATTTT | AGATGGAGCG | CGCAAATTCA | GTGCTCTGGA | AATCTCATCC | 600 |
| | ATGACAAGTG | GAACATCTTT | GTATTTGTCC | GACAGGATGC | CTTTTAATGG | TAGGTTAGCT | 660 |
| | AAATCTTTCA | TCAAAATTGA | AAGTGGTCCA | CCTTGTCTC | CATGAGACAA | | |

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1517UP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCTCAAA | ACTACAGAGC | GAAGTTGAAA | AAGATCATAT | TTTGATAGAG | CGTAAGCAGT | 60 |
| | GGGATGAAGC | ATACGCTCTT | CTCAAAGGTG | TTGTGGATAG | ACATCCACAT | CTATATGATG | 120 |
| 20 | CACATTGAGC | ATTCCGTTGG | TGTCAGCTGC | AGTTGGGCGA | CACTGAAAGC | GCTTTAGAAA | 180 |
| | CATTCCAGCT | TATTATTAAAT | AATGTGAAGA | GCAGCGACGG | CACGTCGTCT | CAGTTCAATTA | 240 |
| | GCTCAGTACA | CTGGCGAACC | GCACAAACAC | TTATTACTAA | GCAGCAGCAT | GAAGATCCTT | 300 |
| | CAGGTAATGA | GTTTATAAAG | ATTGCTTTCC | AGCATCTGGT | ACAATCCCTG | AAGATAACCG | 360 |
| | ATCTTTTTGC | TCCAGGTTAT | TCCCTTCTTG | GACACATTTA | CGAAGTGATAT | TTTCAAGACC | 420 |
| | TGACTCGCGC | ATTTAGGTGT | TACGTTAAAG | CCTTTGAGCT | AGATGCCCGC | GACCTCGTCG | 480 |
| 25 | CTGCTAAATA | CATGGTGGAA | TACTATAGTG | ACCTGTGCAA | TTGGCAGGCG | GCGGGCAACA | 540 |
| | TCGTGTACCG | TGTAATCAAG | AATGATATGC | ATCTCAATTC | CGTCAACTGG | CCGTACAGAG | 600 |
| | TTCTGGGTGT | TTATTATTTG | GAGCTTCAAC | AGGAGGCTGA | ATCGATCGAA | TGGTTCCAAT | 660 |
| | CC | | | | | | |

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1519RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 5 | GATCAGACTG | AACCCATATA | TCAGCGAGGT | ATGGTACCAT | TTGGGCACTT | TGTATGAGAC | 60 |
| | ATGCAACAAT | CAGCTCAGCG | ATGCCCTGGA | TGCATATAAA | CAAGCTGTTT | GCTTAGATCC | 120 |
| | GAATAACGTC | CACATAAGGG | AGAGACTAGA | GGCTTTGACT | GCCCAGCTAG | CCAACCCAGG | 180 |
| | GGCCAGCAG | CCTCAGCAGC | AGCCTCAACA | GCAACAGATG | CAACAGCCTA | GAGGGCCAGC | 240 |
| | ACCCATTATG | TTGCAGCCAA | CATTGCAGCA | GCAAGACCAA | ACAAATCCGT | TGAATAACAA | 300 |
| | ACCTGCGTTC | TACCGGTCTT | CTCCCCACGG | AGTTGCGGTT | GCCGGAACAG | AGTCCGCGAG | 360 |
| | CCACACACCA | ATGTCAGGAC | GGCCTCAGCC | GTTGCAGCAG | TTGAACAATA | ACGGAAGTAT | 420 |
| 10 | CCTGGAACCG | TCATTGTTGC | CGCAAAAGAG | GCCTATGGAG | GGTGGAAATG | ATACATTGGT | 480 |
| | AAATGCCATT | TCGCAGCAGG | AGTTGCAGCA | ACATCAGAAG | AAACATATGC | CTTCTCAGAA | 540 |
| | CCATCCTAGT | TTGGCCCTGG | CTACAGGACA | GCCGCAGCAG | TTACCACCCG | ATGCCGCTCC | 600 |
| | CATAATACCG | CCCCAAAAGA | AAGGTGCGCC | TCTCCCCCAG | TTTCAGAAAA | CTGAACCAGA | 660 |
| | GCATGCGGCA | AAAAGACTGA | AGCCCGAGCA | GAATAACGT | | | |

1519UP

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|----|-------------|------------|------------|-------------|-------------|------------|-----|
| 20 | GATCAGGTAT | CGGCCAACAT | ATCGCGTCTG | TCGATAGCGT | CGAAGATTAT | CGTGATAGAT | 60 |
| | ATAGACTATG | AAGTGACGGA | CGGCAAGGTG | ATCGATGTTA | AGCTGGTGCT | GGCAAGCAAC | 120 |
| | TTGCAACAAT | TTGACTACTT | CAATGGCGAG | GCCAACATCC | TGCACCGGTC | ACTTACCACG | 180 |
| | TATAGCGACC | TGCACGAGTT | CCACCACAAC | CTGAAGTTCT | TAACCCCTACT | CGACGCGTGC | 240 |
| | TCAAGCATCG | ATATCGAGTC | CAATGTGTGC | CAATTTCGATT | TGTTTCGAGTA | TTACTCGATG | 300 |
| | CTGCCGCGAGT | ACATGCAGAG | CTACCTGGAC | GACAATGGCG | CGCAGCTCAC | GGTGCAGACG | 360 |
| | AACCTGAACG | ACCGTTTTTG | GATCTACTTG | CTCGACCATT | CCGAAAAGAA | GGTCGCCAAG | 420 |
| | CTGACATTTG | CCGCTACGCA | GGACCGAAG | CAGCGGTATT | ACGAATACAA | ATACTCGAGC | 480 |
| 25 | GAAACGAAGG | AGTGGATCAA | CCAGTCGGCC | GAGTCCTATA | CGACCGGCAT | CACGCTGGTG | 540 |
| | TTGGAACCTC | TCGGTGACCC | TCCGACGTAC | CTGCCTAAGG | ATAGTTTGCC | GCCAGAACAC | 600 |
| | CCTGATGAGG | GCTTCACGAG | TGCTTCTGCG | TCCGAGCTGC | AGCGCCGCTT | TGCATTCAAG | 660 |
| | TGTCAAAATC | CACGAGTCAC | CCTCGTAAAT | GACTTC | | | |

1520RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| 35 | GATCTTCTGG | ACGCTTTCTT | TGAGTTCGTT | CATCTTGCCA | AGCACGTCCA | CGTTGGGGTT | 60 |
| | GCCCGCAAAA | GAGTTGAGCA | TGGGCCCCAAG | GCGGCTGCA | ATGGCGCCAA | ACTTGTCTAG | 120 |
| | CACCTTCGTG | AGCGTAGTTG | GGAGCTGCAA | AAAGCGCAAC | GTATGGCCCCG | TGGGCGCGGT | 180 |
| | GTCAAAGATC | ACCGTGTGGA | AGTGCTCGCC | GTCGCCCTGC | TCCTGCTTCT | TGATGTGTTT | 240 |
| | CATCACCTCC | ATGAACGAAA | GCGCCTCGTC | GATGCCCGGA | ATCGACCCCG | TGAGATCTGC | 300 |
| | GAGTGCGCCG | CCCTGTAGCA | AGCCCGAGAG | CCCGTCATCA | TCCGCGCGGT | TCCGATCGC | 360 |
| | CATGTGCTTC | ACGTCTCTCA | ACGCGCGGGA | AGGGTCGATT | TCCATACACG | ACAAGTTGTC | 420 |
| | CATGCCCGTG | ACCTTGCGCG | CGTCTTCTCC | AAACTTCTCG | TTGAACGCAT | CGCTAAGGTT | 480 |
| | ATGCGCAGGA | TCCGTGAGGA | TCAAAAGAAA | CTGCTTAGTG | GGCTGCGCAA | GCGCCATCTG | 540 |
| | GATGGCAATG | GAGCACGAAG | ACGTGGTCTT | GCCACACCG | CCCTTCCCGC | CGACGAAAAT | 600 |
| 40 | CCACTTGTGT | GTTGTAGAGT | TGATCAACGA | GCGCAAAGAG | GCCTCTGGTG | TAATATCAGT | 660 |
| | CATGGTTGGT | GTACCGCGTG | AATCTGAGAG | TGCAGGCGAT | CTGAGATCTT | | |

1520UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCAAACAG | TAATGACTTT | GTAAACGGTT | TTGAAGTACT | GCACGAGCTG | CGACTCCTCA | 60 |
| | CTGCCCTGTG | GCGCCACAAG | CGCCGAAATC | ACAGCAACTT | CGCTTTCAAA | CTGAATGGCC | 120 |
| | TCCTGCATGT | TCCGTGGGAA | CCCAAGTAGC | ACGACGCTGT | CCCCAGCCTG | GCACACCTCC | 180 |
| | TTCCAGATAG | GGCCCATCAA | CGCAACCAGC | GCACCTTTGG | GCAGGTGCGC | CGAGTAGTCA | 240 |
| | TGCCCATGCA | CAGCATGCAA | CTCCTCTAAT | AGCGCGTGTT | ATTTGTCTGT | CTCGTCGGTG | 300 |
| | CGGAACCGCT | CCAGCGCCTG | CTGCACGCGT | ACGGCGCGGG | CCCCCGCTGG | CGCCCGGATC | 360 |
| 50 | TTCTCTACGG | GCACATCGGC | AAGCACCGCC | AGCACCTCCA | GCTCATCTGG | CTTGAACACC | 420 |
| | GTCAACCGCC | GCCTCAGGCC | GGAGCGGACC | TTCTCGAACT | CCGCTTCGCT | GAACCTGTGC | 480 |
| | TGCGGCTTGC | TCCGGTCAAT | CGACTTCGCC | GCCTGCACGA | AGATGAGCGT | GCTGACCACC | 540 |
| | GCAACGCCAA | CCATCTTCCA | CGCGCTAGGT | AGATCTTCCG | AACCAGGGGC | CTTGCTGGCG | 600 |
| | TATGGCCGCA | AAAGTCCCTG | CTGACCGCCG | AGAAGGAACA | ATCTAGGCTT | ACAAGTCTGC | 660 |
| 55 | GAAACATTTG | TCCTGCGAGT | TAGCC | | | | |

1521RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGAATCT | KGTCTGAGGG | TCTTCCACGA | WTTGCAATGC | AATCTCCGGA | TATCCGGCCT | 60 |
| | TCTGTAGATA | CGAGATGATG | TTCTGGCCCA | CAAGGTTCGA | CGTACGAATG | AGACGCAAGA | 120 |
| 5 | CTTCAGGGAA | GTTCTTGTTT | ACCAAAGCTT | TCTTAAAGCG | GTAATCGGTT | GGGTCAATGG | 180 |
| | TCAATATCTC | AATATCGCCG | TCTCTGTTCA | AAGCATATAT | ATGCTTGCCA | TGAGCTTTGG | 240 |
| | TAATGTATAG | GGTCTTGCTC | AAAGTTTTTA | TGATCCCGCT | GTCACCATTC | AAATAGGCAGT | 300 |
| | ACTWAATATG | GTTCAAAGTA | GACAAGAGCA | GAACACCAGT | TTTCATCCAC | GCCGCTGACT | 360 |
| | TGATCCTGAT | CGTCTCATGG | TTAGACGTAG | TAATCTCCAA | CTTCCTAGTA | GCAATGGTCA | 420 |
| | GCGTGTGTTT | ACTCATTAAA | GCAACGTATT | GCCCATCTGG | GGACCAGACT | GCATATTTAA | 480 |
| 10 | CCATCTTCAG | AGCTACCTCC | GCCAAATTTT | TCCCCTGCTG | CACGTCGAAC | AAGACTACCG | 540 |
| | CCTTTGGTTT | CAAGATGAGT | ACCGCACCAG | GGCCTCCATA | GACAATGTCT | TTAACAGTTC | 600 |
| | CTTCTATCTT | GATCGATTTG | GTTACCTTGT | TGTCCAACCC | ACGTAATTCA | AGAGATTCCG | 660 |
| | ACGCAGAGTT | GTAGACAGCG | TTACCTATGC | CGAGCGACAA | AAGTCGCAAA | GCTTCCCTTA | 720 |
| | TC | | | | | | |

1521UP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCCACTTC | CCAGATTACA | TGATAACATC | GAAGCCGAAG | GTCCGAAGGG | AAATGTTGGA | 60 |
| | GCAGTATGAC | TTTATWCATA | GCGGCTTCAT | CAGCGTAGAC | GGCAAATCAG | AAAGCCTCAT | 120 |
| 20 | CTTGGGCATG | CCGAAGAAGA | CCACCGGCAG | TTTGATCAGC | TCAATCGAAG | TTTTCTTATA | 180 |
| | TGGCAGAGCA | GCCGTCACCA | TGAAGACAAG | CAGAGGCCCA | GGCGTCATCA | CCGCAATTGT | 240 |
| | ATTCAATGTC | TCTACCCAGG | ACGAGATAGA | CTACGAGTTC | GTGGGGAGCG | AGCTCCATAC | 300 |
| | TGTCCAGACG | AACTACTACT | ACCAGGGCGA | GCTCAACCAC | TGAGAAATGC | GCCGCCATTTC | 360 |
| | GCTACCCTCC | AACAGCCACG | AGGAGTACCA | CATATACGAG | GTGACTGGG | ATGCCGAACG | 420 |
| | CATCCACTGG | ATGGTTCGACG | GCGAGATAGT | GCGCACCTTG | TTCAAGCGCG | ACACCTGGGA | 480 |
| 25 | CCCGGTCCAC | AAAATATAcA | AGTATCCACA | AACGCCCATG | ATGCTCCAGA | TTTCCCTCTG | 540 |
| | GCCCCGCGGC | ACCCCCGATG | CGCCGCAGGG | CACCATC | | | |

1522RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCAAAAGC | GAACAGCGCA | CTTATGTCTT | GCCCAACCGA | CGCGTGCTCC | TGAATACCCA | 60 |
| | ACGAGCACTC | CCTGGCCTGC | TATCTGCGCG | TATTCTGTCA | GAACGATCGC | CGCTAGAAAG | 120 |
| | TTACCAAGCG | CGTCACACCT | GTATTCCCTG | GCTTCTCTCT | CGGCCTTCGA | TGTGCTGGCA | 180 |
| | AGTAGTTCTC | CACGTTCTGC | AGCTGCCACT | GGAAACGTGC | AAACCAAAAC | AAACCTGACA | 240 |
| | CCACTTCTGT | CTCTCGATCG | CGTCCAGCCT | CCAGAACTCC | CAGCGCACAG | ATTTTGAATA | 300 |
| | TAGCAACCCC | CGCGACTAGC | ACTCAAGAAC | TTTCAATTTT | CGCTTGAGCC | CGACCTTGTT | 360 |
| 35 | TTTCGAAGAT | TCTGACCTAT | CCTCCTATCG | ACGTCAGGGA | CACAAATCAC | ACTATAGTAC | 420 |
| | CTCGAACAAC | AGTACAGAAA | AGAAAACCAG | CTGCTCCAGC | CAAAATTCAC | AAGTCCCGTT | 480 |
| | AGCTGCTAAG | GCCAATTGGT | GATACTCAGT | CTTTAATCTT | TACCAATTG | GGAAACTTCA | 540 |
| | CCAAGGAGAG | TCTTGCGTCT | TAAGGTTTGG | CAGTTTGGTT | TAAAAATTTT | CTTGCACGAA | 600 |
| | ATGTCAGAAT | GTCTGGGTTT | CCCTTGTCGG | TCACGTGGGT | GTCGGTCACG | TGGGTGCTAA | 660 |
| | TCACGTGACA | CGTGGATGAC | GACTGAGGCG | GAAAAATTGC | AGGTT | | |

1522UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGACAAT | ATTCCCCCAC | CAGGCGCAAG | AATCGAGTGC | ACACAGGCCA | CGCGCGCATC | 60 |
| | CGGGCTCGGA | TCGGCGGGCC | TGGGCTGCAG | TGGGCGGCTG | GGGGCGGAAG | CACACTACCA | 120 |
| 45 | CAGTGTGCTG | TGGTGCGGCG | GGGACGCCAC | GCCGCGCAGC | TGCGGGCTGC | ATTCCAGCCA | 180 |
| | CGCATGCACG | AAGAGCCGGG | TGACACTGCC | ACCGCTGGCG | TGGCTGCTGC | AGTCCAGCGG | 240 |
| | CTACATGGGG | TTCAACAACG | AGCCGCGGGC | CGTCACGCGC | TGCTGTCTAG | GGGCGACACA | 300 |
| | TCCCGAAGGC | CATTACGGCA | GGGACATGCT | GAGCAGCGCG | GTGGGGCAGC | CCGCGTGTTA | 360 |
| | CGTGGGGCGC | CAGAGCCCGT | TGCTACCGCT | GGGCGAGCGG | ATTGCGCCCG | CGCTCCCAAC | 420 |
| | CAAGCCATCG | CATCGCTGCG | TCGCGGGGAA | CGCGCAGCTG | CGCGGGCCAG | TGCTGCCCAT | 480 |
| 50 | CGTGGGGCCC | GCGGCGTCCC | ACGCTACGAA | ACGAACAAGA | CATGCTCTGT | TTGTGGCAGA | 540 |
| | CGATGTACCC | GCTCCAGCAC | GCTCAAGAAC | ACATGCTCAT | CCACACGGGC | GAACTGCTTT | 600 |
| | TCAGTGCAGT | TGGCCCGGGT | GCTCCAAGCG | GTTCAACGTC | AGGAGCAATA | TGAACCGACA | 660 |
| | TGTGAACCTC | CACAAGCGCC | CGCTGATGAA | GGAAAGCAAG | AAGAAATCCA | GTTCTCCC | |

1523RP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|------------|--------------|-----|
| | GATCTTATCT | AAACCGCTCC | GCGATGATGC | TTTGGTAGCA | ACGGAAGCCC | GCATTTCAAA | 60 |
| | GTCAACATCA | GCGGAAGCTT | GGATAGATGA | GAAATCACA | GGTGTCACAT | GGCGCGAGAG | 120 |
| 5 | CTGAAATTGGA | TTCACCGCTT | TGCTATCAGT | GGGTWAGAGG | CGTTCACTGG | GCTGTTCTGA | 180 |
| | ATTTGAACTT | CTGGAGCTAT | WCGAGGGGTT | ATGAGCAAGT | CCAAGTTCCC | GCGTGA AAAAG | 240 |
| | CTGATCCTGG | TAATACTCGG | TGTAATCCAC | GCTTTTCTGC | CAGCAAAAAG | CTGGCGAGTT | 300 |
| | TGGAATCTTT | CCTTTATCGG | CGACGTCCGT | GCGTACATGG | CGTTCAATGG | TATTTGCTGA | 360 |
| | TGTAACGTG | GGGAGAAGTC | GTAGGGAATG | TCTAGATAAG | GTGACGCTG | AAAAGCTATT | 420 |
| | ACGTTGCAAT | AGCTGCGGTT | GAGAA TG TG | TACTTGGGCA | CAGCAACCTG | CTGCGCTGCA | 480 |
| 10 | TCTGGGTGAG | CTATTAAAAA | TCTCGGCCAC | CGAATAGAAG | AGCATCTTTG | GGTGAGCGCG | 540 |
| | ATTCAAGTTCC | ATGAGATCAA | CAAAGGATAA | AATCCGGAGG | TTATCAAGGG | AGAATTTGTT | 600 |
| | ATCATAACAAG | AGCCAATCAT | CACTGCAGTT | GGCTATATTT | GGATTATTGT | GATATTGCCT | 660 |
| | CACAGCAGTG | TTTATCCGGT | CTTTTTTCGCA | GTCATATAACC | ACAATGGATT | GT | |

1523UP

| | | | | | | | |
|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCGACAGA | ATGAGCAGAG | CCATTCTGAG | AAAGCAAACA | CGGCCCCATTG | CGGTTCTGGG | 60 |
| | ATCCCTGCCA | CAGAGCGAAA | TGGGCCCCAGA | AGGTTTGATAC | TCGCCGATCA | AGGATCATCT | 120 |
| | GGCCTTAGCG | CCA TGCGACG | TAGTAAAAGG | ATGGCATGGA | TGCTGGTGGG | AAATGCGGGT | 180 |
| 20 | CGACTGGCGC | AAGACATGGA | TTTTATCAAC | ACCAGCTCCA | AGATATTTCGT | CGCAACACAC | 240 |
| | ACTTCGGAGA | CGAATTGGCG | AATGAACATG | GGTCAGAAACA | GTACATTATC | CCATTCTCTG | 300 |
| | ATGAACGCAA | ATATTATAGG | CTCAGAGTCA | AGCACGGCCA | TTAGCAATCC | ACCTATGCCA | 360 |
| | TCTGAAACTG | AGGAACGTTA | CAAAAGTGTT | TTACAGAGAC | TCGGTAAGCA | TGTCCCTCGG | 420 |
| | GGTAGAGGCC | TATCTCAGCT | TTATAATGAG | TTTTTGGAGG | ACGAGCGCAT | CCTCTACGGC | 480 |
| | TTAGGTGGTG | GAAGTGAATA | TGTTGAAGCA | TACTGCGATA | GTTTGGATCA | AACAAAAAAC | 540 |
| 25 | AATGTGAGCA | TCGAGACTGC | GTATGAATCT | TCTTTGCTAG | AGCGCGGGGG | CCAGCAGGTT | 600 |
| | TTTCTGTCTT | TCGCCCAACG | CCCGAAGATA | GAGCTACTGA | GGATCATGT | | |

1524RP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTTTGA | AACAAGTGAA | TTTCTGGAAA | TCGAAGTGCG | GTGACTTGGA | CAAAATTAAG | 60 |
| | CAGGACTTAC | TGGCCAACAT | GGCGACGAAA | GAGACGGACT | TCAACAATCG | ATGCACCGAC | 120 |
| | TATGAACGTA | ATATAGTTGA | ACTTCAGCGT | CAACTATCAG | AAAAGTGCGA | CGCTACAAAC | 180 |
| | GAAACGCTCG | TCACTTCAAC | CTCTGCCGAT | GTACCTGGAG | AAACCAAAGA | ATATATTGAG | 240 |
| | TCTCTCAAGG | AAGTCAACCG | TAGACTGGAA | GAAGATATGT | TTGCTGTTTT | TGCGGGGAAC | 300 |
| | ATAGTGTATC | TGGAGAACAT | CGGCCTGCTT | CTTTCTAGAG | GCCCTGACAA | CAAGTTACAG | 360 |
| 35 | ATTATACGCG | TTAAAGGTTT | AAGGAAAAAC | ATAGATGATA | GTATAATAAA | GGACAGCAGC | 420 |
| | CCTGTAAATA | ATTCACATAT | GGTGAAGAGC | ACAGTTTTCC | AGGATGTGAA | GAAGTTATTT | 480 |
| | GACGAGCTTC | AACTGAGCCA | AGGTGTTAAC | GACCAACTCC | ATTTTGTTAG | TGAGCTGGAA | 540 |
| | CGCTTTTATG | AAGAGGATCT | ATTTCCAACT | TCCGTGATCA | AGAGGTTTAC | CGATGTAGAG | 600 |
| | AACCTGGCTA | AGAGCTCAGA | AAGGAAAAATA | AGGCTAAAAA | AAGCGTATTG | AAAGACACCA | 660 |

1524UP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCTATCGA | AAGTGTTGAAG | CTCCTAGACA | AGTTCGTCCA | TCCCAAACCC | GGGAGAACCT | 60 |
| | CTTTGTGCTA | CCGTATCAAC | TACCAAGTCCA | TGGACAGGAC | TGTTACCAAT | GCCGAGGTCA | 120 |
| | ATGTCTTACA | AGAGCAGGTC | AGTCGGGAAC | TAGTCAGGCT | TTACAACGTT | CAATTGAGAT | 180 |
| | AGCCCAATCA | GGCCGAGACT | AATAAACTTG | TATATACAGC | TTTGCGGACA | TCGCACCCAT | 240 |
| | GTAACGTATA | GTATGATATC | TGCTTACTCA | TATCGCACCT | GAATGCTAGC | AGACTTCGAG | 300 |
| | AAATGCCTTA | ATACGCAGCA | TATCCGATAA | CTAGTGCCTA | AAGCCAAAGTT | CTTGGATCTT | 360 |
| | CACAGCTAAC | CGTTTTTCTT | TGCTCCTGAT | GGCAGCTACA | AGAATAGCAA | TCCTTTATGG | 420 |
| 50 | ATCTGAAACC | GGTACTGCAC | AGGATTTTCGC | TAATATACTG | TCCCACCAAC | TACGTCGTTT | 480 |
| | TCATTACAAG | CATACGGTGT | GCTCTATTGG | AGAATATAGT | GCCCAGAATA | TCCTCGCATG | 540 |
| | TCAGTACCTA | TTTGTCAATT | GCTCCACCAC | CGGGCAGGGT | GCGCTGCCGC | AAAATGCGCG | 600 |
| | GCAGTCTCCG | CAGGGCAAAG | TGGAAGGTAC | ACCATGGAGT | GTGCTCAAAA | GAAGCTCTCT | 660 |
| | CCCACCAACT | C | | | | | |

1525RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTCTCT | CGCTGGAAC | GGTGATGCGT | CCAAAATTTT | AACTTAACAA | TTTTTCACCT | 60 |
| | TGACCTCGCC | AAGCATCTAT | ATCACGTGAT | TCCATCTGAC | CAACCTCATC | CCAAATGCAG | 120 |
| 5 | GCCATTGGCT | GCTGCATTAA | CGGTCTCAGT | GCCCCGGCTAG | AGAACTAGCG | TTACGCTTTG | 180 |
| | GGGTTTACTA | GCAAGTGGCC | GTGCCGTGGG | ATTTCGCAATG | TGGGCGCGCA | CCTTATCCAC | 240 |
| | GCGACACAGA | AGTGGGTATT | TTCGCTTGTT | TACATAGATG | TCCAAAAACA | GTACGCGCAA | 300 |
| | AGCACCAAGC | AAGCTTCAGC | AAGACTCAGG | GAGGTGTTAG | AGGCGATAAT | CCAATCTGTG | 360 |
| | CTGAATGGAG | CAGGCGACGG | GACCAAAGTG | GATATTTGCA | GGCGAAAGTG | AGACGATGGC | 420 |
| | AGCGCAAGAG | GGCAATGGAG | TAAACGGGGA | CCTGGACGGC | GGCATGCAGA | AGACGTTCAA | 480 |
| 10 | CCCCGTCAAG | CCGCTGGACT | TCAACGTGAA | TTTGGCGGTT | TACCGGGGCA | AGGCGGGGCT | 540 |
| | CGGGGAGACC | CTGAACTGGC | GCGCGGCGGG | GCAAAAGCTC | AGGGTCCGAG | GAGGAGACAG | 600 |
| | ATAGCGAAGC | GAGCGGGAGC | TCCAGCCGGG | GGCGGGGGAG | TGCAGACACG | TCTAGTCTGG | 660 |
| | AGCCCCCGAA | GGTGGACCGG | TCGTTGACGC | CTTGGCGGCT | GAAGTCGTCC | CC | |

1525UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCGCG | ATTTTCGGTG | GCGTTGATGA | GAAAGGCCCT | CACTTATACA | TGCTTGAACC | 60 |
| | AAGTGGCGCT | TACTGGGGTT | ATAGAGGAGC | CGCTGCCGGA | AAGGGCAGAC | MAGCCGCTAA | 120 |
| | AGCGGAGCTG | GAGAACTGA | TTGGGAACGA | TAAGTCAGAG | CTGTCAGCTA | GGGATGCAGT | 180 |
| 20 | GAAAGAAGCG | GCTCGGATCA | TCTACGTGGC | CCATGAGGAT | AATAAGGAGA | AAGAAATCCA | 240 |
| | AATGAGCTG | AGCTGGTGCT | CCGCTTCGGA | GACGGATGGC | TTGCACAAGG | AGGTACCAAA | 300 |
| | AGAGCTATTT | GATGCAGCGA | TTGAGTTTGC | GAAGAAGGAG | ACCGGTCAGG | AGAGTGATGA | 360 |
| | TGATTCAAGC | GATGACAACG | CATCTGGAGG | TGAAGAGTCC | TCAACAAAGA | AGGATGCTGA | 420 |
| | CGGTGATGTC | CAGCTTTTAT | GATAACAGCC | CGGCATTATG | TGGAGGTTCA | TTTCATGACA | 480 |
| | ATTGACGGAT | GTTACTAAGT | GTATATTAAG | TTAATCCACC | TATATAAATT | AATAACATGC | 540 |
| 25 | AAAGCAATTT | AGAATTTGTC | GGAAAGCAGG | TTAAAGCATG | TCTACTCTCC | TTAATCTTTC | 600 |
| | GCGAAGCTGT | ACATTTTCTT | CTCAAGTGAA | CGAATTCAT | CCACCGGCTG | CGTCTGATTG | 660 |
| | TAATTTCTTA | CGTTCCGCTT | CTGTGTACCA | TTTCCGCGTC | AGC | | |

1526RP

| | | | | | | | |
|----|---------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTGGCCG | CGACCTTGAG | AGGCGTCTGT | ACCTTCTTTC | AGCACAACTA | TTGTGGGAGC | 60 |
| | TTGGTTTCCA | AAGTTCATCC | TGAGCTCGGT | GGTGGTTTTC | ATATGGTGGG | TGATGGCCCTC | 120 |
| | GTCAAGGTCT | GTCAGCTTCC | TGTACCGACG | ATGACGGCAG | TTTTTGCCAC | TAGGCCATTT | 180 |
| | TTTTTTTTTTCAG | CTCTAAGATG | GCAGACGGCA | AGGAGAATGC | TCCAGGACAC | CGGATGAGGC | 240 |
| 35 | TCCAATCTCA | GCAAAACATC | GCCTACTGGC | CCATTGCTGC | TGCTGCATAA | CACCTCTATG | 300 |
| | GCTTAGTTTG | TGCACGTGGT | CGGCGCTTCA | CATTGTATCT | CGTGAATTGC | GTACCGGTAC | 360 |
| | TATATTACGG | TTGTGTGGCC | GAGCGGTCTA | AGGCGCCTGA | TTCAAGTGTA | TGCTTACAGC | 420 |
| | TGTTACACAGC | TGAACACTCA | GGTATCGTAA | GATGCAGGAG | TTCGAATCTC | CTCGCAACCA | 480 |
| | ATATTTTTTGC | GGGCGTTTTT | GGGGCGCCAG | CGAAACTGAA | CCGCACACTA | TTTCGTGGTA | 540 |
| | CCGTTGGAGG | TAAACTGTTG | GAATCCGACA | GTGGGGTACC | GAAACCATCC | CAGCCTCTTA | 600 |
| 40 | TTACTAAGCT | GGATCGTGCA | CTGCAAGCGG | TGATA TTGGA | ATCGTCCCCA | CGTATTATTA | 660 |
| | CTAAGCCGCC | ATCTTGCCGG | CCATGAGGAG | GGTACCGAAA | ACCAATCCCC | AATTTGCATT | 720 |
| | ACTAA | | | | | | |

1526UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCGTCACC | AGGTCCCGCG | TCTTCGGGAA | CGTCTTGCCA | TGCGCTGGCG | ACAGTCTGTC | 60 |
| | GATCTTCACG | TTACCTTCGA | TTACCTCCGA | CATGCTCGTT | GCTGCTCCCG | TGGCTGCCCG | 120 |
| | AGAGTGATCA | AGTGCCTGTT | ATTAAGGCC | CCAACGCCAC | CCGCTTGGCC | GGGTAACACG | 180 |
| | TGCCCCGCGG | CTCGCCGCGG | TGGGGCTGTG | CGGCCCGGCG | GCCCCATGCA | CCGGCACGCG | 240 |
| 50 | GGCCGGTGCA | CCGCGTGCGC | GCACTTTGCG | CCGCGCGCGG | CGCCCACTGC | CCGAAGCGGT | 300 |
| | AAACTTAGTA | CGCAACCGCC | CAGCGCCCGT | CATAGCATAC | GGACGCCAGA | CGGGGTAAGG | 360 |
| | CCGTAGCCCA | GTCGGGAATG | CGGGCACGAT | ACCTCTTTAG | GCAGGATACT | ATTTTAAAGG | 420 |
| | GTACAGGCGC | GCAGCCCATC | GTGCAGGCTG | CAGTAGCAAG | CTGAGACAGG | CTGGGCAAGT | 480 |
| | CTAGACCTGG | GACACAGCCG | GCAACCTAGA | GGCCGCGGTG | GCCGCGAGGC | GTGAGACATT | 540 |
| | TTCCGTTGCGA | GGGCGCGTGG | CAGCAGGACA | AAGAGCCGCG | AGAGAAGCAA | ATGCMCAACT | 600 |
| 55 | AAACGGGGAG | GAAGGCGAGC | GGATTTCTTT | TTGGGCTTCT | GTGCGAGGTG | GAAATTGTAT | 660 |
| | AAATAATGGG | AGCGGCGGCT | GGTCTTGGCG | GCTGAGACTG | T | | |

1527RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGCTG | CTATCCAGAA | ATGGGAAGTT | CTTAGACAAC | GGGGAATTAA | GCCCCTTTTC | 60 |
| | CAATATTTTG | AGCGTCGTGT | CATAGCTCGG | AAGACGCAGC | AGAAGCCCCC | CCAGTAGTGT | 120 |
| 5 | CTGTTCAATG | TCGCTCATGA | AAGGTGTCTC | TATCAAATCT | AGCTCCATCA | TCGCAGAGTA | 180 |
| | GTTATTATCT | TTCTTCCAAG | ACAGACGCAC | ATGCCGCAAC | TTCGTCAGGA | TTACAGTAAA | 240 |
| | ATAATGGTAG | AACCGCGGAC | TCACAGAAGC | GACGACCGCT | CGAAATGAAG | TCGGCCCCGT | 300 |
| | GAAGATCGTG | CGGCCCTGCT | TCTCTATCAC | AAGATGGAA | TGCGAAAGTC | TGTTACACGG | 360 |
| | GGACACCGTG | CCCATAACGT | GCTTCTGCAT | GAACAGCTGC | GGTACCATCT | CGCTCTTCAT | 420 |
| | CCGCGCGAGC | TCAGTCTCAA | GCTCGTCGAT | CCGTCGCAGC | AGCTCCACAT | TGGGCGTCGA | 480 |
| 10 | GCTGAACAGC | TCCCGTGAGT | TCACGTCGTG | CGTAAACTCA | GACAGGTACA | CACACTCGGG | 540 |
| | CAGGCCCTTC | CCAATACATG | TATAGCACTT | CGGCCGCGCC | TTGTTGCACT | TGACGCGCCG | 600 |
| | CTTGCGGCGAG | AACACGCACG | ACTTGCTGAC | CTTCCGCGCT | GTTTTTCAAA | TCTTGCCATC | 660 |
| | GGACTCTGCC | ATCCCCCCAG | CTTCAAGCAA | AATGATTAGG | CTATA | | |

1527UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCGGAC | GTGGAGCACT | GGCCGGAGAT | GCGCGCGGCC | ATCCTGGTGG | TTTCTGCGGA | 60 |
| | CCGCAAGGAC | ACGCCATCGA | CGAGCGGTAT | GCAGCAGACG | GTGCACACGT | CGGACCTCTT | 120 |
| | CAAGGACGCG | GTCCGCGACG | TGGTGCCGCG | GCGGTACGGA | AAGATGGCGG | CGGCGATCCG | 180 |
| 20 | CAGCGCGGAC | TTCCGCGCGT | TTGCGCGCCT | GACGATGCAG | GACTCGAACT | CGTTTCACGC | 240 |
| | CACCTGCCTG | GACTCATTTT | CGCCGATCTT | CTACATGAAC | GACACTTCGC | GCCGGATTGT | 300 |
| | CAAGCTGTGT | CATCTGATCA | ACGAGTTCTA | CAACGAGACC | ATCGTGGCGT | ACACGTTTGA | 360 |
| | CGCGGCTCCG | AACGCGGTGC | TCTATTACTT | GGCGGAGAAC | GAGGCGCGGC | TCTGCGGCTT | 420 |
| | CCTCTCTGCC | GTCTTTGGCG | CCAACGACGG | CTGGGAGACC | ACGTTCTCGA | CGGAGCAGCG | 480 |
| | CGCCACCTTC | GCCGCGCAGT | TCGACGAGTG | CGTGCGCGGC | AAGCTTGCGA | CGGACCTGGA | 540 |
| 25 | CGACGAGTTG | CACAGAGGAG | TTGCCCCGCT | CATCTTCACG | AAAGGTCGGG | CCAAGGGCCC | 600 |
| | AGGACACTAA | ATCCTCGCTC | ATCGACCCCG | AGACGGGCTT | GCCCCGTGAC | GCTATTCTCC | 660 |
| | TGCTATTTTC | TGCTCTGTAT | ACCCTGCCAG | AACGCGCTAT | ATATATAGAA | TATGCATT | |

1528RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCACTGTA | TCGAATTTGA | CACCCAAGGA | AGCCAAAACA | TCGTGGGCGG | ATCCCGACAA | 60 |
| | TGTGGAACAT | ATGATATCGC | TTTCTGCAAG | GATGCGTGCC | TGAGCTTTCC | TCCTATTCAA | 120 |
| | TTCTCTATTT | CTATAATTCA | CCGCATTCCCT | TTCCCTCAGC | TCATCGCGCT | GCTTACCTAG | 180 |
| | CTCATTAATC | TTCTTGCTCA | AGTCCCTCAA | CTTTAGCTGT | ATCTTAGATA | TCTCATCAGT | 240 |
| 35 | TGAGAGTTTA | CTAGTCGGCG | AACCATCCCT | TTTATTCACT | ATATCCCTGA | GCTTTCTCCT | 300 |
| | CTCCGCTACG | GCGTCATGAA | AACCTGTGAT | TGAGTTGCGA | TCGTGATTTA | TTTCGTACGA | 360 |
| | CTGATTCAAA | GCTCGCTTGT | CAACCAGCTC | TTCCAAACGT | AGGTCCTCTG | TAGCAGCGTT | 420 |
| | AACGTCATCT | GATTTACCAA | TCCGCACTAA | TTTGGTTTGT | AACAACTTGC | CGTCAGTATC | 480 |
| | GACCAAACTT | TCTCTCAGAC | GCAACACAAG | CTCGTCAACG | GCTGCATTAC | TGGGTGCACA | 540 |
| | TATCAGAACT | TTTGTGTTCT | GTAGTAACAT | CTCAGTAGAG | GTAGCGTTCT | ATTCTGTGGG | 600 |
| 40 | ATTTCTGATA | ACATTTGATG | GTAGTGCTTT | TGCGGTAGTT | AGGAAAAAGC | CGACGACACC | 660 |
| | AAGAATAGTC | TTAGTCTTAC | CAGTACCAGG | GGGTCCCTGG | A | | |

1528UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCAGCAT | TTCCGCGTAA | ATCCGGCTAT | TCCGCACGCG | AAGGTGGGAA | GCTTCAACGA | 60 |
| | GTTGATCTGC | ATGTGGCGGG | CGCAGATGGT | TCTTCCACTG | CTGCGAGACT | TTGATGCCTG | 120 |
| | CAAAGTATCA | GATGCTGTTA | TTCTGGCGAT | GTATGAGATA | CTGCTGAATC | CGCAGATGCT | 180 |
| | CCGGTGCTCG | CCGGAACCTA | AGTACTACTA | TGATCTAGCA | TTCAAGGGCA | TGTATGAGAC | 240 |
| | GGGACATGAG | CTTTTAGACC | ACACAAAAGA | ACAAGGTATC | AATCTGCTCG | TACCTGGAGT | 300 |
| | CGTATATTCA | CAGATGTACG | GCTGCCCTGA | ACAGAGTTCT | TGGGCAACAC | GTCTCTTGCG | 360 |
| 50 | GCACTTCTTC | GAGAACGAAT | ACTCAATCAC | AAATGAAAAC | GTGACAACCG | AACTGCTTGA | 420 |
| | CGAAATCACC | TATCATTTTA | TTTCAATTCA | GTTGAGCAGG | AGCAACAGCT | CGTATTTGAG | 480 |
| | CATGATTGGA | CTATTCTGGA | GCAAGATGTG | CCCGTTCTTT | GCGCTGATGC | ATGTTGATGT | 540 |
| | CTTAAAGGAG | TACTTTTATTG | AGCTCAAGAA | TATTAAGTCA | TTGCGGTCCA | CGACTAATGT | 600 |
| | TCATATTGAA | TCTGTTTTCA | AGGTATTTTA | TCACCATCTC | ATAATGCAGG | TAAGATCAAA | 660 |
| | ACCGTTGGAT | ATTCTGCTCC | GTATTTTGAA | ATTATCTCTG | AAAAACTAGG | G | |

1529RP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCAAAAAG | AAGGCGATTG | CTATGGGAC | GGTGACTGCT | GCTACCGCCG | TCTACGCTCT | 60 |
| | ATATCCCTTC | TCTCCGATGT | TGGTTGACAG | CTCCGCGTTG | ATCAAGCTAG | AAGGCACCAT | 120 |
| 5 | TTCTCTCAGT | AGCAAAGGTG | CTACTAATGA | TACTGATGTT | TTCATATTAC | CAGAAAAACA | 180 |
| | TTCTGCTGTT | CCGGGCTACA | ACACAATCAT | TCGTTTCCTC | GTACCCGCCA | TGAATGCCTT | 240 |
| | CAGGCTTTAT | GGCAGGCCGA | AAACACTATC | GGCGAGCAAG | GATGACACAA | ACTCACTCCT | 300 |
| | GTTTAGTCTA | CCAGCGCTTC | CACATGTGCA | CTACTTGCTG | GTCTAGGATT | TGCTTCCATT | 360 |
| | AGTGAATTC | GCCTCTGGCT | CATGGACGAC | GCAGGAGTGG | CGGAGACAAA | TCAAGGCTCT | 420 |
| | ATTACAACGG | AGGGTAGCGG | CTGGCTATCA | GGGATGTGGT | TCAAGCTCCG | GTCTATCCGG | 480 |
| 10 | CGCTCTGTCC | TCCCCTGCTC | TGGGTCCATT | GAGTCCCTACT | TCTTTGTCTAT | CGCCGCATTT | 540 |
| | TGCTCCGTC | ATTGCGTTTT | CGCCTACTGA | GTCCAACTAC | ACTTTTATGT | CAAGTCACTC | 600 |
| | AAGAATAACT | TCACTACATG | ATAATATCCA | GAGACCATAT | TGAATACCGT | GGCCAGCACA | 660 |
| | TCCGATAATA | CWCTGCACCC | AAACAATATG | CTATCTCCCG | CAGGTCTTGC | CCCTGATGCA | 720 |
| | TT | | | | | | |

1529UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCCGCTC | AATGCCAAGT | AGAATGTTTC | TCGGGGGAGC | CCATACAGTA | CCGCTCCTCT | 60 |
| | CTCATCCCGG | CTCTCCTGCT | CCACGTCCTC | TCTGCAACA | TCTAGCAGTT | TCCCGATAAC | 120 |
| 20 | ACTGGGGATG | GTCATGCTCA | CGGCTCCGGA | TATCAGGATC | AGCACCAAGG | CGCATACTAG | 180 |
| | AGACTTGAGC | TCAGGCCGCG | CCAATTGGAA | CAGTCTACGC | ACATCCTTGG | CACCTGATGC | 240 |
| | GTTGCCCGTC | GCCGTCGACA | GCTCGAGTCT | TTCTTGGTGG | GGTTTCTCTT | CCGTACTTGC | 300 |
| | CCGAGGGTTT | GCTGTTGAGT | TTAGCCTCGT | TTGAATTCCT | GTGATGCGC | TGAACGAAAA | 360 |
| | GCGGGTGCGT | TGATGTAGAT | GATTGAACGG | CGGCCATCGC | TGCATCCCAA | TAACAGGCCT | 420 |
| | CGGCACCTGC | TTAACAGCTA | GCGATAGCCA | CATATATGTT | CTCCTCGAGG | TCATATTCCC | 480 |
| 25 | AGTTTTCTTC | TAACCTCACC | AGCCTTGTA | GCCTCTCGAG | TTGCTGTAA | GTGGTGAATT | 540 |
| | TGCGCATCGG | ACTCATTTTT | CATGGAGAA | AAATAATTGT | ATTACAAAAT | AGAGATGCAT | 600 |
| | GCCCAGCTAG | TCGAGGCCAG | CTACTATACA | GCTCCTGGAG | CTTTGCAGTT | GTAGCGCACC | 660 |
| | GGTTTTTCGGC | TCCATGTGAC | TACAACATTT | T | | | |

1530RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCCTCTG | CTACAAACAC | ATACCTAGAT | TTCTCATATT | TTATACTGAA | TACATATAAT | 60 |
| | ATATCATTTA | ACTGTCTTCA | TTCATGAGAC | GTCGTCTAAG | TTCTGTGCTG | CTCAACTTGT | 120 |
| | TTTTCCACTT | GTCAGCCTCT | TCGCCCCCA | GTACGTTTAC | CACATGCACG | GCTAGCTTCC | 180 |
| 35 | TCATTCCCTT | GCTCTCACGC | GTATCGTTGA | TGTCTGGGG | ACCGGCCACA | GTTTCCTCAC | 240 |
| | TCACTACCGA | GGCTTCGATA | CCAGGTTCCG | TACCGTGGG | CCCGCACACG | TCATGTAACG | 300 |
| | CAAATATTTT | GATTTCCAGC | CCCGGTTTCA | GCCTGTGAAG | GAAGCTGCAC | ACGTTATCGC | 360 |
| | ATCGTTCTGC | GAAGGACTGA | AGCTGTCTCC | TGTATTTCTT | GTTCCGCAGC | AGTTCTTCAT | 420 |
| | CTGTAATCCC | CGGACGACG | CGGACGCGC | TCACGAGCGC | GGCAACACTG | AGCAATATTT | 480 |
| | TATGTCCGTC | GTGTAAGTGG | TCGAAAGTGC | CTCCCAGCGC | GCTAACAGCG | TACTTGTCTC | 540 |
| | TACCGCCACT | CTCGACCGGG | CCCGCAGCGG | CCATCGCCGG | ACTATCAAAC | AGCTCTATCT | 600 |
| 40 | GCCTGTGCGG | GAACGCATCC | TGCAGCAGGC | GATCGCTCAG | GAATACAACG | TCCCACTTCA | 660 |
| | TTCCGGCTGTA | CGCTTCCATA | CTGACGTTGA | ACAAAACATT | TATCGGGGTC | GTGT | |

1530UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCTGGGA | CGACATCGAC | ACCATTTCTA | TCGGTAACGA | ACTTGTGAAC | AACGGCCAGG | 60 |
| 45 | CGACCGTGGA | CCAGATGGCT | GGTTACATGA | AAACTGGCCG | CAAGTGCCCT | GCTGAGGCCG | 120 |
| | GCTACAAGGG | CCCAGTTGTT | TCCGTGGACA | CTTTCATCGC | TGTAATCAAC | AACCTGGTTC | 180 |
| | TATGTGACCT | ATCAGACTAC | ATGGCTGTCA | ACGCCCCACC | ATACTTCGAC | TTCCACACTT | 240 |
| | CTGCTGCTAT | GGCCGGCCCT | TGGGTTTTGC | ACCAGATCCA | GAGAGTCTGG | AGCGCCTGCA | 300 |
| | ACGGTAACAA | GAAAGTTGTC | ATCACCAGAA | CCGGCTGGCC | TACTCAGGGT | CAGACTTACG | 360 |
| 50 | GCAAGGCCAT | TCCAATCCAA | GCCAAACAGA | AGATGGCCTT | GGAATCTATC | AAGGCCACTT | 420 |
| | GTGGTGATAG | CGCTATCCTA | TTTACTGCTT | TCGACGACTA | CTGGAAGCCA | GATGGGCCTT | 480 |
| | ACGGTGTCCA | GAAGTTCTGG | GGTATGCTAT | AAGTTGCCGT | GTGCTTCTTT | ATGACCTGTC | 540 |
| | TCTTTATTTT | GCTCGGAACC | CTTACATGCA | GATGGGGGCT | GGCGGTGCAT | GGGCCTGCAG | 600 |
| | CCTCCGGGCC | TGCAAGTTTC | TACATCGCCC | TACTTTAGCT | GCCACGGGAC | TTTTGAATTT | 660 |
| 55 | CTTTGGCAGC | TGGTACTGCT | GGCATCCTTC | TCATAGAACA | CAGTGTGCCC | ACAGGG | |

1531RP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCTGCATC | CTCGTGTATG | AAAATACGGC | CATGCAGCTA | ATTTTGGAA | GGTTTCTGCA | 60 |
| | TACCGTAAGA | GAGATGGCTC | CAAATCATAC | CCAGTTACTA | TCCTTGTGAC | TAACCTTTTCA | 120 |
| 5 | AAGCCGACAC | CTACCAGACC | TGCTCTTCTG | AAGTTGGGAG | AACTCACAAC | GTCTTTTCAT | 180 |
| | GAGTTAGGCC | ACGGCATACA | CGATTTGGTG | GGTTCCAATG | ACTTGGAGTC | GCTCAACGGG | 240 |
| | CCTGGGTCTG | TCCCATGGGA | TTTCGTGAG | GCGCCCTCTC | AGATGCTGGA | ATACTGGACG | 300 |
| | GCACGGCGTG | ACGTTTTAAC | TATGTTATCC | AAGCACTACG | AGACAGGTGA | GAAAAATCCCG | 360 |
| | AAGTCGCTGC | TGGATGCCTG | GTTTAGTGT | GGCGGCTCA | ATTCAGGATT | GGCCAACCTTG | 420 |
| | GGCCAACCTGA | AACTTGGCTT | GTTTCGACATG | TATGTGCACA | CCCGCGATTA | CAAAGGAGCG | 480 |
| 10 | GAGGTACGGA | AATTATGGAA | TGATCTCACC | AGAGAGATCG | GGCTCATGAA | CTTAAAAAAC | 540 |
| | TACACTAGCA | CCGGCTATGA | CTCCTTTGGA | CATATTATGG | CTGGATATGC | TGCTGGCTAC | 600 |
| | TATGGCTACC | TTTGGTCCCA | GGTTTTTGCT | GCAGATATGT | ACGACACAAA | GTTCAGCCCC | 660 |
| | AACCCATTCA | ATGCTACGGT | GGGTGTGGAA | TACAGGGACA | CTATTTTAGC | TACCGGTGGA | 720 |
| | CTT | | | | | | |

1531UP

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|----|-------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCCAATCC | TGGAGGCGGG | TTAAAGTGCT | CCTCAATGCA | GCGCAGCCGG | CACTGGAGTA | 60 |
| | TGGCAGCGAA | ATCGCACTCT | GGAGGAGCGG | CGTGGTTGGG | AACTGGATCG | TCCACCTCGC | 120 |
| 20 | GCAGAAAGGC | CGTTTCAAG | GCGCAGGCGA | GGACCGGAAT | GAGCATTAAT | AAAGAGGTAA | 180 |
| | CGTGCAATGCT | GTGAAGAGTT | TCACCTTATG | CGTTGCAATC | CTCCCCCCT | GAAGACGAAA | 240 |
| | ACACGGCGCA | CATGCGCTAT | ATATACCCTT | CGTGTCTACT | ATTGTGCGCT | GCCCCGCTCTC | 300 |
| | ATGTCAGTTT | TTACTTTTTG | ACGCCGGGAA | CGCGACATCT | GCCACAACGC | ACCAACGCCCC | 360 |
| | AGTGACACGC | TCTATGCCGC | TTGCTCTGCG | AATAACCAAG | CCCCCTACTAG | CCGAGCATTT | 420 |
| | TGCCCTTAGTC | CACCAGATAT | TCCATTGTTA | TCGTTGCTCG | CCAGCCTCGG | GCTGGGACAT | 480 |
| 25 | AAAGATCGGA | AGCTCCTGTG | CAAACCTGCA | CAGCGCGCCT | TCGAGAATAC | TCCGCAGGGA | 540 |
| | CCCCCCTTCC | CATTAGTCTT | TGGCAGTTTT | TTGCTTTGTC | CCGCGATAAT | GTATCTAAAT | 600 |
| | ACAGAAATATC | GATTACGGCG | AATAGGCAAG | TTTTGTGGTC | TGACATGCCG | AGTGTCAGTT | 660 |
| | CATGATTACA | TAATGTGTCTG | TGCCATATCT | GT | | | |

1532RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTKTGA | AAGAGTAACC | AGGATCAAGC | CTGCGGTATA | GCCAGCGAAA | TATGCATATG | 60 |
| | AAGTCTTTCT | CGGTGGGCTG | TTTCAATGAC | TTCAAGTATA | TGCGATGCCC | AGTTTCTATG | 120 |
| | TCAAACCTGTC | GCGACTGCAG | ATAATCAAAT | ATCTCCTGCT | GCAACACTGC | CTGGTAGTTT | 180 |
| 35 | TTGTACCGGA | GAGGTGCGCG | GTCGCGGGTA | CTCTGCAGCG | CACCGTAAGC | TGACGGACCC | 240 |
| | CCGCCGGGAA | CAATCGAAGG | CCGCTGCGAA | GATCGCAGAC | TCCGCCGGAG | AGACTTTTCGC | 300 |
| | ACCTCGGGCA | CAGGTCTTGA | AAGAGAGCTC | CGGCCGTTC | GTGCCAGACT | CTTGTTTATC | 360 |
| | ATGTCCGTAA | GAGCAGCGTT | CGTGCCAGGT | ACGCCCTTCT | TGTTTCGTGT | TCCACCAATT | 420 |
| | GATGGAATTT | GAGACGTGAA | CCTCTGCGGA | TTCAAGCTAT | TGAGCACACC | ATTGGCACCA | 480 |
| | CTTGAGCCCC | TTGCTCTGTC | CATCCCTAAT | CGTCCCTATC | TACGGGCGGC | TAATAAGTTA | 540 |
| 40 | CTACCAGACT | CTGGCCCTCA | TCTGGGACTG | ATGTTATCGT | CTGCAGCCAG | ATCCTGTTTG | 600 |
| | TGACCCGATC | GAAATCATCG | AGTACGAATA | ACCACGTGAC | CATTATTAC | GTGATGAATT | 660 |
| | TGGCGGTCCC | TGTTGCCGAC | TCTTACTCCA | GGTTAACCAT | GACTAGATGG | GCATACCTCA | 720 |
| | GA | | | | | | |

1532UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCATCTGA | ACGCTCATGA | ACAGTTCGCG | GAACATCGTG | TCCACGACTA | TGCACTGCTG | 60 |
| | GATGTCTTTC | TGGCCGAAGT | ACGCGCGGTC | CGGAGCAACA | ATGTTGACCA | GCTTAGCAAC | 120 |
| | GACCGTCGCC | ACACCGCGGA | AGAAGCGTGG | ACGGGTGCGA | CCCTCCAGCA | TCTCGCTGAC | 180 |
| | GCCAAGCACC | GACACAAACG | GCCCGCGCTG | CGCCTCGACC | TCCAGTGGGA | TGCCGCGCGG | 240 |
| 50 | GTACATTTCC | GCGGGAGAGG | GAGCAAAGAG | CACGTCCACA | CCGGCCTCTT | CCAGCAACGC | 300 |
| | GCGATCCGCT | GCCAACGTCC | TGGATAGCG | GTCAAGATCT | TCGTTGCGCG | CAAACCTGCGA | 360 |
| | AGGGTTTACG | AAGACTGAGA | CAACAGTAAA | GTCGTTTTCC | GCGCACGATC | TCCGCACGAG | 420 |
| | CGTCATGTGT | CCCTCATGTA | GGCAGCCCAT | CGTTGGCACA | AACCCAAATCG | TCTGTGTCTT | 480 |
| | GCAATCTACC | GTCTGCTTGC | GCCATTGCGA | GACTTCCTGG | ACCTTATTTGA | GCAAGTGCAAT | 540 |
| | GAGCGGTATC | GCTTTGATGG | TTGAGCCTTC | AAGTTTGTCT | GTGTGATCT | CACAGATTAA | 600 |
| 55 | GGAAGCTTGC | GCACACTAT | | | | | |

1533RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACGAAC | TCCATCATTA | CAAAGTCCAT | CGCGTCGATA | CGAAAAACAA | ATGCACAGCC | 60 |
| | GCTACCGACC | TTCCGAAACC | TCGAGAAGAT | CAACCAGCCG | CCAAAGAACG | CTGACCATGC | 120 |
| 5 | GTGGGAGTAC | ATAAAATCGT | GAATTATTGG | GGTTGTATGT | ACTATATACT | ATCGCTCTGC | 180 |
| | CGCCCAATGA | TGGTTACGCC | TCTTGCACTG | GCATTCTGGG | TGACGAGGTT | GTCTCCGTAC | 240 |
| | ACCTCTACTA | TTTCCAGGTT | GGGCGCACAT | TCGCTGATAT | GGGCGAGCAA | TTTGTCTGCA | 300 |
| | ACGCAGCGGA | CGAACCCTAC | ATTCAAGTTG | TGCAAGTTTG | GACAGGACAT | TAGCTGGAAC | 360 |
| | CCAGCTGCCG | TCAGGTTCTT | GGCTGAGTTC | AAGTTTAGCT | CTTTGAGGAA | TTTGGAACAT | 420 |
| | GGATTCAACC | ATATCTCCGC | AATTGATGCA | TCATCCAGCT | GATGGCAGCG | CCTCAAGTTG | 480 |
| 10 | AGGTAGTGAA | GTCCGGGAAG | CTGGACCGAA | GAGAAAAATG | TAATGAATCC | ATCGGACGTA | 540 |
| | ACCTGGTCCA | ATTCTCTAG | GGAT | | | | |

1533UP

| | | | | | | | |
|----|-------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCCGGAGA | CAGACGTGTA | TCTGAGTTCT | ACCGCTGGGC | GCTGAAACGC | ACGTCTTATG | 60 |
| | CGCACATCCT | GTGTGCTTGC | ACCGGCCAG | AGCAACCAAG | TATTCCTATA | TTCTGTAAAA | 120 |
| | CTGCGGTAAAT | AACCATGTAG | AAGATTCCGC | GCCCGAATAC | CCGTTTTACC | CCAATATGTC | 180 |
| | CGTCATGTGA | GCTATTGGAT | CGAAGAGTTT | TTAATGACGT | ATCCCTATC | ATAAAGCGGT | 240 |
| | GCTGGATTAT | TGGAGCATGC | ATCTGGTTCA | GCTCGGGCGT | GCCAAATATA | TGGTGCAAGA | 300 |
| 20 | AGAAACTATC | GTACCAACCC | CGTCTGTCT | GACCTGTGTC | CTCTTAATCG | GCATGCAATA | 360 |
| | TATGGGGTAT | CCTTAAAAACC | TTTAAAGATG | TACCTCCGGT | CTCCAGGCGG | GTGTCTAGT | 420 |
| | TTACAAGAGT | AAATACCACC | TTGCCCTGG | GAGGGTTCTT | ACTTTACAGT | AGGAAAGAAT | 480 |
| | CGATACCACT | GGTGGGGGGA | TTTGGTATAT | TTTGAAAGAT | GGATGGAATG | GAGGGCTCCT | 540 |
| | TATTGACAGC | AAAGCCACTC | CGACAGAATA | CCCACACCTT | GGATTTGGAA | GCTGCGGATC | 600 |
| | GACAGAACAT | GGTTACGTAA | TCGAATTGTC | CTGTCCGGCC | GCCCTTCCGG | TTAATCAAGA | 660 |
| 25 | AGAACAACCG | CGGGGCACGC | AGGGAACATAT | TGAATTTCAGT | GCTGCCAAGC | CTAATTTATG | 720 |

1534RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCACATT | GGAATATGGG | TATGGGACTT | GATGGTTGAA | CGCTTCGCTT | CAACCACTGC | 60 |
| | AACATTGGCA | AACCGTTTGA | AGTGCTGGAT | GATTTTCTCC | TTCTGGATCG | CAGTCAAGAT | 120 |
| | GTGGCCGAAT | CGTTTTTCGT | TGTATAGGCC | TTGCTCATCC | TGTGCTTCAT | CCTCATCAGA | 180 |
| | CGCTAATGGA | ACGTCGGCA | CAATCTCGAC | GCCATCGCAG | GATGCGATAC | TCAAGGTATT | 240 |
| | GAGCATGTTC | AAGGCATGTT | CCCTTGCTAC | TTTAAACCCCT | GCATCAACTT | CCTCCTCGTT | 300 |
| | TTTCCATAGG | CGAGGGACAT | CGTTTGTATC | GTAACGAAAC | TTACTTTCAA | AGCGTTCTCT | 360 |
| 35 | CAGTATAGAA | ACCACATGTT | CTTCTTCAA | ATACTGGTGG | ATAATATCAT | ACAGAAATAGT | 420 |
| | CCATGCATTT | GACCGGATCT | TCAGGTATAA | AGCATAATTG | TCCTCCTCGA | TGAGGTGAG | 480 |
| | CTGGAAGTCG | TAAGCGGTAC | TTTCATCGGT | GACATCCCTT | AAATTGGGTA | GTTTATACTT | 540 |
| | TAGAACTGAA | CGGCGGAAAA | CATCATCAAA | GTGGTCCATA | ACAAGTTGCC | AGACGTTATC | 600 |
| | CTGTGGATGG | GAGAGTAAAT | GGACAATATC | GTCTCTAGTA | TGTGTGAATT | GGTACTTTTT | 660 |
| | CGCCCTCAAT | ATAATAGCTT | TCATCTCCTT | ACCACGCTCT | CTTTCCGCTA | GTTCACTATC | 720 |
| 40 | TTCTCCA | | | | | | |

1534UP

| | | | | | | | |
|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCAGCGTG | GACTTGATCA | TGGTGTGTCT | CGTGCGGCCG | TGTGGTAGGC | GGGGGACGCT | 60 |
| | GCTGCTGTCC | TTTGTGCGGC | CCGCGGCGGC | GGCGATCAAA | GATCGCGCAC | CACGGTCGCC | 120 |
| | GCCGGGGGGG | CTCCAAGACA | CACGCGCACA | GCAGCGCGCG | CGTGCCGGGC | AATGCAGCGC | 180 |
| | GCACAGCTAT | CCTCGCGCCT | CGTACCGGTG | GCTGCCCTCG | GGCGGATTGC | GCTCGTCAGC | 240 |
| | GGTCACGTGA | CCCGAGATAT | GTTGCAAAACC | AAGCCATCGA | TCGGCATAGG | AACGCATTAC | 300 |
| | CAGCCGATTC | GAAACCCCTC | ACAACCCGCC | ATCTGCTGGT | ACGACCACCG | CAAGTCGCTG | 360 |
| | GCACTGGTTG | CACAGTGGTA | AGGTCTTCGT | TCAAAAATTAC | TCTGCCAGGG | CCGCTCTCAA | 420 |
| 50 | AACTGTCAA | GTGCAGACGC | ACTGACAGTC | CGTCAAGATG | CGACATTACA | ATGCTCTGGA | 480 |
| | AGCTCTCCAG | TAGGTTCTCG | CGCGCGTCT | AGACAGTCAG | GGGCGAGGCTT | CATCGACAAA | 540 |
| | GACGCGCAAG | GATGTGCGAA | TTCTGTCGCA | CAGTCCACTC | TAGGGTCGGA | CGGGAAAAAC | 600 |
| | AGCGCTACTC | TGCGTTGACT | GGGGCGAGAC | TGGTAGCCGG | CTGCGTGGCC | TCAATGAGGA | 660 |
| | CAGACCAAGG | TGATCATGAT | AC | | | | |

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1535RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTGTCTG | CTATCCAGAA | ATGGGAAGTT | CTTAGACAAC | GGGGAATTAA | GCCCCTTTTC | 60 |
| | CAATATTTTGG | AGCGTCGTTT | CATAGCTCGG | AAGACGCAGC | AGAAGCCCCC | CCAGTAGTGT | 120 |
| 5 | CTGTTTCATGT | TCGCTCATGA | AAGGTGTCTC | TATCAAATCT | AGCTCCATCA | TCGCAGAGTA | 180 |
| | GTTATTATCT | TTCTTCCAAG | ACAGACGCAC | ATGCCGCAAC | TTCTGTCAGGA | TTACAGTAAA | 240 |
| | ATAATGGTAG | AACCGCGGAC | TCACAGAAGC | GACGACCGCT | CGAAATGAAG | TCGGCCCCGT | 300 |
| | GAAGATCGTG | CGGCCCTGCT | TCTCTATCAC | AAGATGGAAC | TGCGAAAGTC | TGTTACCGGG | 360 |
| | GGACACCGTG | CCCATAACGT | GCTTCTGCAT | GAACAGCTGC | GGTACCATCT | CGCTCTTCAT | 420 |
| | CCGCGCGAGC | TCAGTCTCAA | GCTCGTCGAT | CCGTCGCAGC | AGCTCCACAT | TGGGCGTCCA | 480 |
| 10 | GCTGAACAGC | TCCCGTGAGT | TCACGTCGTG | CGTAAACTCA | GACAGGTACA | CACACTCGGG | 540 |
| | CAGGCCCTTC | CCAATACATG | TAGAGCACTT | CGGCCGCGCC | TTGTTGCACT | TGACGCGCCG | 600 |
| | CTTGCGGCAG | AACACGCACG | ACTTGCTGAC | CTTCCGCTTG | GTTTTCACAA | TCTTGCCATC | 660 |
| | GGA | | | | | | |

1535UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCGGAC | GTGGAGCACT | GGCCGGAGAT | GCGCGCGGCC | ATCCTGGTGG | TTTCTGCGGA | 60 |
| | CCGCAAGGAC | ACGCCATCGA | CGAGCGGTAT | GCAGCAGACG | GTGCACACGT | CGGACCTCTT | 120 |
| | CAAGGAGCGC | GTCCGCGACG | TGGTGCCGCG | GCGGTACGGA | GAGATGGCGG | CGGCGATCCG | 180 |
| 20 | CGCGCGCGAC | TTCCGCGACG | TTGCGCGCCT | GACGATGCAG | GACTCGAACT | CGTTTCACGC | 240 |
| | CACCTGCCTG | GACTCATTTT | CGCCGATCTT | CTACATGAAC | GACACTTCGC | GCCCGATTGT | 300 |
| | CAAGCTGTGT | CATCTGATCA | ACGAGTTCTA | CAACGAGACC | ATCGTGGCGT | ACACGTTTGA | 360 |
| | CGCGGGTCCG | AACGCGGTGC | TCTATTACTT | GCGCGAGAAC | GAAGCGCGGC | TCTGCGGGTT | 420 |
| | CCTCTCTGCC | GTCTTTGGCG | CCAACGACGG | CTGGGAGACC | ACGTTCTCGA | CGGAGCAGCG | 480 |
| | CGCCACCTTC | GCCGCGCAGT | TCGACGAGTG | CGTGCGCGGC | AAGCTTGCGA | CGGACTGGAC | 540 |
| 25 | GACGAGTTGC | ACAGAGGAGT | TGCCCCCCTC | ATCTTCACGA | AGGTGCGGCC | AGGGCCCAAG | 600 |
| | ACACTAAATC | CTCGCTCATC | GACCCGAGAC | GGGCCTTGCC | CCGCCTGAC | | |

1536RP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|------------|-----|
| 30 | GATCATTTGT | CCTTGACGCA | CAAACATCCA | CAGCTGTGCG | ATTTGCAGTT | GCAATCCGGA | 60 |
| | GCAGCAGCTC | CTTCGACGCA | TTTGCAAACG | CCAGGCTCTC | CCACCTCTTT | CGCATGTTCT | 120 |
| | TCTGACATTT | TTGTTTGTTC | TAAATCGTGA | TTTTGAGTCG | ATGGTTCCGA | GACCGCCGCA | 180 |
| | GCTGACTATA | GGGGGGACCA | AGACCCTTTA | TATATTTTCG | CAACCAGATA | CATTAATGCG | 240 |
| | ACGCCAAAAA | ACTATCAAAA | ATAAGGTATA | GCCTCATTTT | TATTGTGACC | CATGGGACAT | 300 |
| | GCTGTAAATCG | GATTATTCTA | ACTAAGCTAG | TATTATGTGC | GTATCCTTTT | ATTAATTACA | 360 |
| 35 | ATCACTGCTG | AGTTCGGGTA | TCGTGCAACT | GCACACGCAG | CTCATCAGTG | GTTTCGTTCC | 420 |
| | CGCGCAGATC | ACGTGCCTGC | GACATGGCGA | CTTCATCCAC | TGGCGCCGAG | CTACGTGGTA | 480 |
| | TATGACATTA | TGGCCGAGAG | GTTAAGGCGT | GAGACTCGAA | CTAAATTGAG | GGATCTCTTG | 540 |
| | GGCTCTGCCC | GCGCAGGTTT | GAATCCTGCT | GATGTGCTTA | TTTTTTTGCTT | GCGCGGCCCT | 600 |
| | CGGGGGGCTG | TATTTGCTTG | TTGCTATTTA | GATAAACGAG | ATACTAAACT | ATGGGTAGAA | 660 |
| 40 | CTCGCGGTAC | TTCCCGTAGT | AGTAGGCTGT | GCCGAAACCG | CCGAGGGCGG | TGAGCAC | |

1536UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| 45 | GATCAGCTCG | GTA CTGGAGA | AACAAGGCTA | CTGTCCCTTG | CCTTGACGAA | GTTACGCGAA | 60 |
| | ATCGAAAGCA | GCAGCAACAA | GCAACATAGC | AAGACCCTCT | AATACATTCT | CAAGTCATTG | 120 |
| | GAATAAGCTC | TAAAACTACC | GATACGTATA | TTTACTGCGT | TAACGTTTAT | ATACATATAT | 180 |
| | CTAGGCGTGC | GTATGGGTGT | TGTACGTGTA | CATCTAACCA | AATAACTCCA | CTATAGCTGT | 240 |
| | AGTACATGGC | ATTCCCTTGT | AAGCAACTTC | AGGTTCTGGA | CTACCCAATT | GCTGTCCCGC | 300 |
| | ATCCAGCCTT | TGGGGTCTGT | GCCCTGTGTT | GACCTCAATT | TAGCGAAGAC | CGACTTGTAG | 360 |
| | TCGCTCTCAT | ACTGCTTGAA | TTCCGGAATG | ACGCGGTTAG | AGTCGAACTC | AACATACACG | 420 |
| 50 | CGGTATCGA | CTATCCTGAA | GAGGACATCG | TCCACACGCA | GGAAGAAACG | ACTCAAAATC | 480 |
| | AGCATACACT | CGTTTCATCAC | TCTCACCTTA | ACATTACAGAA | TGCTAATGCC | ATTGTCCGCT | 540 |
| | AGTTCCGCTT | CAAAATAAAAT | CATGTCTGTC | TAGAAAAGAA | TGGGGTCCCG | GCTCGAAAAG | 600 |
| | CTTCGCCAGA | CGCTGTCTCG | TCTGACCATC | CTGACCATC | GCCCTGCCAT | CTATGGTGCC | 660 |
| 55 | CTGGTAGAGC | GTCGTGTACG | TCCAGTCGTA | CTGGTGGGAT | ATGTTTAGGG | | |

1537RP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCTCCGTA | CTTTAGGATG | GCTTTATAGA | GGGCACGAAT | TTCCCTTTTCG | CCTATAGAGT | 60 |
| | TCAGGTTGTT | GGATTTTCGCA | CGTTTTTTTGG | AGCGTGAATC | CTCTTTGTGCG | CTTAAGCTCT | 120 |
| 5 | GAGCTCCATC | TCCATTGACG | CTATTTTTTA | TCTTATTCAG | AGCAACATTC | CTACGATTCA | 180 |
| | TCATTTGCAG | TTGTTCTGG | ACATACTCTT | CATCCTTCCG | CTTCTGTTCT | TCGTCTTTGA | 240 |
| | GTTTGCGTAG | CTCGTCTTCC | GGAATGATAT | CATCCCATTC | CACGTCAGCT | TTATAATCGG | 300 |
| | TGACTTCAAA | CTGTTTTAGG | AATTCCTCAC | CTCCGAGATG | AGACTCTCCC | AAATCTGGTG | 360 |
| | TGGTGACGTG | ATCTTCCGCA | TGATTCAAGA | CATCATCCAA | GTTCAAATCT | TCAAGCTTCT | 420 |
| 10 | TTTGATTATC | ATGCGCTTTG | AACATATTGC | CTGCACCAA | CTTGAGAATC | TCAGACAGCT | 480 |
| | CTCCTGCACT | AGGTTCCGGCT | TTGCTCTTGC | TCGTATATTT | ATTCCCATCT | GTAACACCTA | 540 |
| | ACGAGATGAT | AGCATACTCC | AAGATCATCT | TTTTGCGTGC | TCCTTCTAAG | ACTTCTTCTT | 600 |
| | CAACGGTATT | CTTAGACACA | AAACGGTAAA | CCATAACATG | ATTCTTTTGA | CCAATTCTAT | 660 |
| | GCGCGCGAGC | CATTGCTTGG | AGATCGGCCT | GTGGATTCCA | GTCGGAATCA | AATATGATCA | 720 |
| | CAGTGTCTGC | CGTCATC | | | | | |

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1537UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAGACC | ACCCGGGCTC | GTTACCCGGA | TACGAAGTAA | AAGCAGTCGG | GAGCGGTCTT | 60 |
| | CTGGCAACGA | CGTTTTCTTC | TACACACCTC | CTCGCACAGG | ATCCAGCATC | CTGCCGCATA | 120 |
| 20 | ACGTCAACGC | CGGCGTTGTG | ATGGTTCCCA | GGTGCCACTG | GCGCCAAGCG | CTGCGTGAGA | 180 |
| | AACAGCAGCG | CTGCACTTCG | CTGCTTCCGG | GAGGCTCCTG | GGAGTGGTCC | GGGGGTTTGG | 240 |
| | CCACCGCTCA | ACCTAGCGGG | GCGTCGCTGT | GCCGGGCTCT | CCATGCAACT | GGGGCGCTCC | 300 |
| | CATGATGGCG | GGGGCTTAC | CAGGGTGGTG | TTTGGGCTGC | CTGGCTGTGC | GTGGCCACAC | 360 |
| | GATGGCCTGC | TGGAGGAGCT | GAACCTGCTT | CCGTGGTGCA | AAGGTGTGTG | CGACAGCGCA | 420 |
| | CCTGCGTGCA | AGCTGTGCCT | GCGGGGGCGT | GTGATTGTCT | GCGTCCGCGG | GTGCAACTGT | 480 |
| 25 | GGTGACAGCG | CTTTGCAGCG | ACGTGATGGT | TGGTGCGGGG | CCCAGACGTG | CTCGGTGTGT | 540 |
| | CTCAGACAGC | TTTTCCGCGG | GCTGCGGCGC | CGCCGTTGCC | GCCATATGAT | TGATTCCGTC | 600 |
| | TCGATTAGTG | CATGGTGGTC | AGCTTCCAGA | TGGCCAGGCT | GTACTTGTGC | TTGCCCCGGG | 660 |
| | CCGGCAGGCT | CTTTGGCTGT | GCCGGTGGGT | CTTGCTTGTC | GGGCTGGCGC | CGTTCT | |

1538RP

| | | | | | | | |
|----|-------------|-------------|------------|-------------|------------|------------|-----|
| | GATCCCTCTG | CTACAAACAC | ATACCTAGAT | TTCTCATATT | TTATACTGAA | TACATATAAT | 60 |
| | ATATCATTTA | ACTGTCTTCA | TTCATGAGAC | GTCTGTCTAAG | TTCTGTGCTG | CTCAACTTGT | 120 |
| | TTTCCACTTT | GTCAGCCTCT | TCCGCCCCCA | GTACGTTTAC | CACATGCACG | GCTAGCTTCC | 180 |
| 35 | TCATTCCCTT | GCTCTCAOCG | GTATCGTTGA | TTGTCTGGGC | ACCGGCCACA | GTTTCCTCAC | 240 |
| | TCACTACCAG | GGCTTCGATA | CCAGGTTCGC | TACCCGTGGG | CCCGCACACG | TCATGTAACG | 300 |
| | CAAATATTTT | GATTTCOCAGC | CCCGGTTTCA | GCCTGTGAAG | GAAGCTGCAC | ACGTTATCGC | 360 |
| | ATCGTTCTGT | GAAGGACTGA | AGCTGCTCCC | TGTATTTCTT | GTTCCGCAGC | AGTTCTTCAT | 420 |
| | CTGTAATCCC | CACGATCAGC | CGGGACGCG | TCACGAGCGC | GGCAACACTG | AGCAATATTT | 480 |
| | TATGTCCGTC | GTGTAAGTGG | TCGAAAGTGC | CTCCCAGCGC | GCTAACAGCG | TACTTGTCTC | 540 |
| 40 | TACCGCCACT | CTCGACCGGC | CCCGCAGCCG | CCATCGCCGG | ACTATCAAAC | AGCTCTATCT | 600 |
| | GCCTGTGCGG | GAACGCATCC | TGCAGCAGGC | GATCGCTCAG | GAATACAACG | TCCCACCTCA | 660 |
| | TTCCGGCTGTA | CGCTTCCATA | CTGACGTTGA | ACAAAACATT | TATCGGGGTC | GTGTACAGCT | 720 |
| | TCTGCTTCAG | AAG | | | | | |

1538UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCCTTGGG | ACGACATCGA | CACCATTCTT | ATCGGTAACG | AACCTGTGAA | CAACGGCCAG | 60 |
| | GCGACCGTGG | ACCAGATGGC | TGGTTACATG | AAAACCTGGC | GCAAGTGCCT | CGCTGAGGCC | 120 |
| | GGCTACAAGG | GCCAGTTGT | TTCCGTGGAC | ACTTTTCATC | CTGTAATCAA | CAACCCTGGT | 180 |
| | CTATGTGACC | TATCAGACTA | CATGGCTGTC | AACGCCACCC | CATACTTCCA | CTTCCACACT | 240 |
| 50 | TCTGCTGCTA | TGGCCGGCCC | TTGGGTTTTG | CACCAGATCC | AGAGAGTCTG | GAGCGCCTGC | 300 |
| | AACGGTAACA | AGAAAGTTGT | CATCACCAG | ACCGGCTGGC | CTACTCAGGG | TCAGACTTAC | 360 |
| | GGCAAGGCCA | TTCCATCCAA | AGCCAACEAG | AAGATGGCCT | TGGAAATCTAT | CAAGGCCACT | 420 |
| | TGTGGTGATA | GCGCTATCCT | ATTTACTGCT | TTGACGACT | ACTGGAAGCC | AGATGGGCCCT | 480 |
| | TACGGTGTCC | AGAAGTTCTG | GGGTATGCTA | TAAGTTGCCG | TGTGCTTCTT | TATGACCTGT | 540 |
| | CTCTTTATTT | TGCTCGGAAC | CCTTACATGC | AGATGGGGGG | TGGCGGTGCA | TGGGCCTGCA | 600 |
| 55 | GCCTCCGGGC | CTGCAAGTTT | CTACATCGCC | CTACTTTAGC | TGCCACGGGA | CTTTTGAATT | 660 |

TCTTTGGCAC GTGGTACTGC TGGCATCCTT CTCATAGAGC ACAGTGTGCC ACAGGGTATC
ACTGG

720

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1540RP

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|------------|------------|------------|------------|------------|-------------|-----|
| GATCTTTTCT | TTGTCAAAGT | TCAACACCTG | TAAGCCGCCT | CTAGATACCG | CTCTAGAAAAG | 60 |
| GGCCACATAC | GCTTGGCCCT | TTTCAAAAAC | ACGTCTGAGA | TCCACTTTCA | CTTTGTTTAG | 120 |
| TGTTTGGCCT | TGAGATTTAT | GAATGGACAA | GGCCCATGCA | AGCATGAGTG | GCAATTGAAC | 180 |
| TCTCGTTACT | AGAGGCTTCT | CATTTTCGTC | CTCGATAGCC | CATGCCTCTT | CTCGAACTAA | 240 |
| AACTGTTCTG | GTGGTATTGT | CGGGCTGGAA | GAATTGCACT | AATGGCAACT | TCTTACCCTT | 300 |
| TGAGCTCATG | TGAACCTCCT | GTAAGAGCTG | CTTCTTCGGT | TCTAGATTGG | CCTTCAC TTC | 360 |
| AGGATCTGTG | ACTTCTCGAT | CATCCTTTAA | GAAATCGAAT | ATCGTGTCGC | CCAAGTGGTC | 420 |
| TACAGTGTC | TCTGTGTCTA | TGTCCTTAAA | CTTCTCTCGC | AGAGCTTTCT | TGACCATGCT | 480 |
| TGTGCGGGTC | TCCTTCTTGG | GCTCCTCATC | CTCATCAAGC | TCGGGGGCGT | TCCAGTCGTT | 540 |
| TTTCGCTAAT | GCATCCCGAT | ATTCTTCCCA | TTCTGCAACG | TCAAGATCAT | CATCGCGAAC | 600 |
| ACTTTGATAG | AACATAAATG | TTGCCTCATC | GATGAAGTCA | ATGACCTTCC | CCAGTGATCC | 660 |
| GTTTACGAGT | GTATCATCGA | AGTTCTTAAT | GTTTATAACC | TGTGCGCCGA | CTTTAA | |

1540UP

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|------------|-------------|------------|-------------|------------|------------|-----|
| GATCTCTCTG | GCGAAGAGCA | CGCCCTGCGC | CCATCCGGCA | TAGGGGCCCC | ACTTTTGTAT | 60 |
| GAACATTTCC | CGCACAAAGCT | CCAGCTCCAT | GTTTCAGTTTC | TTGCGCACAC | TGGGAAGGTC | 120 |
| CTTGATATCG | GCTTTCAGCG | CAGCGATCTT | CGCTGCCGAT | GCATTGAAC | TGTAGTCTCT | 180 |
| TTGTGCGATC | CTGTTGATGT | GCACGTCTAC | AGGCACATGG | TGTTCCATCT | GCATGCCCAT | 240 |
| GAGGCAGACG | CAATCTGCGA | CCTTCGGACC | CACCCCGGGA | ACCTCCATAA | ACCGCTGACG | 300 |
| GATCTCCTCC | CGCGATATCA | TGTCTAGCCA | GGATTCCAGG | TGTTCACTAT | CGCTCATGTG | 360 |
| TGCCGGTTTA | CTTGAATCCA | TCCATTCTGC | CGCAGCCATG | ATATACTTGG | CGCGATACCC | 420 |
| AAACCCCAAA | TCCCGCAGTG | CGTCCCTGCT | AGCGCCTTCC | ATCAGCTGCT | TGCTGGTGGG | 480 |
| GAATGAGTAG | TATGGAGTAC | CGTCGAGCTC | GCCGAGGAAG | CTCCCGTACT | GCGAACACAG | 540 |
| TGCATGGCAC | ATCTTCGTGA | TGCGCCCGAT | ATTGTTGTTG | CTAGAGCAAA | TAAACGAGCA | 600 |
| CAGTGCTCTC | CAGGGTTCCT | GTCGCAGTAT | TGCGACGCCA | CGA | | |

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1541RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGAACAA | CCATACTTTA | GGCCACACG | ACCGTTCCCC | TCGGGGATAT | CCTGCCGCCC | 60 |
| | CTCTACAAGA | TTGGATTCAA | TCATCACCCC | ACAAATGGCA | TTCTCACCTT | TACTCAGCTG | 120 |
| 5 | CTCATAGATA | TCTTGGGCGA | CTTTCGGCTG | GTTGCGGTAA | TCCTTGTGCG | AATTTCCATG | 180 |
| | CGAGCAGTCA | ATCATAATCC | TCCGCTGGAC | CCCAGCGCTG | TCAAATAGCT | TCGCATTGAC | 240 |
| | CAAGTCCTGC | TTAGCCTGTT | GTACACTGGC | AGCGTCATAG | TTTGTGCCAT | CTTTACCACC | 300 |
| | GCGTAGAATG | ATGAAGGTGT | CCTCGTTACC | TTCACTCCCA | ACAAATCGCAG | TCACTCCAGG | 360 |
| | CTTGGTAACC | GAAAGAAAGT | AATGAGAGTG | AGCAGCGGCA | CGCATAGCGT | CAATAGCAAC | 420 |
| 10 | CTGTAAGCAG | CCATCTGTCC | CGTTCTTGAA | TCCGATCGGG | AACGATAGTC | CAGAAGCCAG | 480 |
| | CTCACGGTGC | AGCTGCGATT | CTGTCGTCCG | GGCGCCAATG | GCGCCCAAGG | AGAAGCAGTC | 540 |
| | GCTTAAGAAC | TGCGGCGATA | TGGTGTCTAG | CATTTCCGCC | GCAATTGGA | TGTGCTCCAC | 600 |
| | CAGCTGCGTG | TACATCTCCC | GCGAGATACG | CAATCCCTTG | TTTATTTGGA | ACGAATTATC | 660 |
| | GATGTCCGGG | TCGTTGATGA | GCCCCTTCCA | CCCCACCGTG | GTCCGCGGTT | TTCCAGATAC | 720 |

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1541UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCTGA | TGAAGATTGT | ACGTCATCAC | TGCTATTTAA | CACAAACATA | ACATAATTCA | 60 |
| | TCCGCGATAG | TTTAATGGTT | AGAATTCGCG | CTTGTGCGCG | GCGGGATCGG | GGTTCAATTC | 120 |
| 20 | CCCGTCGCGG | AGCTTTTTGT | GACATTTATT | GAAACGGTTG | TCGTTATAAC | CGTTCCGATG | 180 |
| | GAATGTGGCA | GGACCCTGTA | ACGGCGACGT | ATCTTGCAAC | TTGACGCTGT | TGTGCGCTCT | 240 |
| | ACGCCAGGGC | TTGGGCTTCC | AGAAATTGGC | TTTCCCGGAG | CCCGAGTTT | TGTGACCCAA | 300 |
| | TATTTGAGCT | GCTGATCATC | AAGCTCTAGT | CGCACACAGG | GGGCCCCAGT | ATCCATTGAC | 360 |
| | AAAGGTCGGC | CAACATCCG | ATCGCCGGGT | CCCTTTATAT | ATAAATATAC | ACTAATGACA | 420 |
| | CATGCGAATA | CCCGACTGCC | GTGGATAGGG | GACGTTTGAT | GCCTCATACC | CCTCAATACA | 480 |
| 25 | GATAACAAAA | TTGGAATATA | GGAGAAGAAA | TGTTGAGAG | GCTAAACTT | AGGTTCCGGC | 540 |
| | GATGCAGAAG | ACTCAGAGCC | AACCGTTTAG | CAGACGTTCC | ATACCCGAAT | CCCACGTTGA | 600 |
| | ATTCCGCAAT | CATTTCCAGA | ATCGACACAA | TCACGGTGTC | AATCTCGGGT | CGCTATCGTC | 660 |
| | CTTGAGAAAGT | GGATATCGAG | TCGATGTTCC | AATGTGGCGG | CGAGACCGAG | CATGCGGGGA | 720 |
| | TCAGGAAGAT | GA | | | | | |

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1542RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATGTGG | AGGAACTCGG | GCAGCGTCTC | GGAGCCGGCG | TAGTGGGCTA | CTGTGGCGGC | 60 |
| | GCGGGCAGCC | GACTGCTCGG | GGTATTCGGG | CGCCGGCGCA | GCGGCGTGTG | AGCCGATGCT | 120 |
| 35 | GCCTCCGGGG | TGGCGGGCGG | CGAAGGCGTC | TGCGCGGCGG | CGACGGGCGC | AGGGCGAGCC | 180 |
| | CCCGTCGGAG | AGCGCGAGCA | CAAGGCGATC | GAGGGCGAGG | AGCATGAGGG | TGGTGGCGAT | 240 |
| | GGTGGGGGCG | TTGAGGCGGT | CCTGGACGCA | GCGCTCGCGC | AGGTGGGGGG | GCTGGAAGAG | 300 |
| | GGTGATCAG | TGATGCGCGC | GGCGGGCGAG | CGTCCAGGCG | GGATCGCCCG | TGACGGCGAT | 360 |
| | GAGCGGGCTG | GCGGGTGCGA | AGCGCGCGCT | GCGCAGGTAG | GCGGCGAAGT | GCAAGAGCTC | 420 |
| | GTCAGTCTCG | CCGGAGTGGG | AGCAGAGCAG | CAGGGCGTGC | CCGTCGGCGA | CGATGCCGAT | 480 |
| 40 | GTCGCGGTGC | ATGGCCTCCG | TGGGGTGGAA | GACGGCGGCG | GGGATGCCGA | ACGAGTGGCA | 540 |
| | GGTGGCGACA | GTCTTGCGGA | TGATGCCGAA | GGACTTGCCG | CAGGCGACGA | ACACGAGCTT | 600 |
| | GCGGCCGTCC | GCGA | | | | | |

1542UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATTTAC | CTACGCATCG | GCCTGCCGCG | CATTGCCGCA | GACGGATCGC | TGCGAGACGG | 60 |
| | CTACCTGGAA | CACTACTACG | AGAACGCGTA | CGCCGCCGCC | CTTCTGGACG | GCTGCCGTGT | 120 |
| | GCAGCGCCTG | ATAGGACTCC | ACGCGCTGCC | GCTGTAGCGA | GTCAATGCCG | TGTGCCGGAC | 180 |
| | CCGAGCGGTT | TGCCGTCTCG | GGAGCCTCCG | GGTTCGCACC | GCTGGAAAAA | GGAGGGCCAC | 240 |
| 50 | GCTGGTATAT | AAACGGCACA | CGAGCCATCC | GGCGTCAGGA | ATAGCGTGAG | TCGACAAGAT | 300 |
| | GGGTGCGGAA | CACGGTCTTA | AGGACCTTCA | GAAGAAGCCT | GTGAGCTTTT | CCAACATTGC | 360 |
| | CCTGGGAGCG | GCGTTGAATA | TGTGCGAGGT | CACGACGCTT | GGGCAACCGC | TTGAGGTCAC | 420 |
| | CAAAACGACC | ATGGCCGCAA | ACCGGCAGTT | CGGCTTTTCG | CAAGCGGTGC | GGCAGCTGTG | 480 |
| | GTCCCGTGGG | GGCGTGTTCG | GCTTTTACCA | GGGGCTGATT | CCGTGGGCTT | GGATTGAGGC | 540 |
| | GTCACCAAG | GCGCGGTGTC | TGCTGTTTGT | TTCTGCCGAA | CCCGAGTACC | AGTTTCGGCG | 600 |
| 55 | GCTTGGTCTC | AGCAACTTCG | GTGCAGGCAT | CCTGGGCGGG | TGTCGCGCG | CGTA | |

1544RP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTCAACA | AGATCAATAG | GCATATCCTG | CCGGCTAGGG | ACACCACTGA | ATTTTATGAC | 60 |
| | GAGAAGGCCG | AAGAGTTCTGA | CCGCAGTGTG | AGAATGGAAG | AAATGGCCAT | TCGGATGGGC | 120 |
| 5 | AAACGGCGCA | AGTGGCTGAT | GAAGCACTGC | GAGGGCGATG | TGCTAGAAGT | TGCATCTGGT | 180 |
| | ACTGGTAGGA | ATATAGATTA | CCTAGACTTG | AGCAAAATCG | ACACAATCAC | CTTTCTGGAT | 240 |
| | GCGTCTAAGA | ATATGATGAA | GATCGCCAAT | AAGAAGTTCA | GAGAAAAATA | CCCACACTTC | 300 |
| | AAACAAGCTG | CATTCTGTAGT | TGGAAAAGCA | GAAGATTTAG | TGGACCTGGC | GACTGGGCAT | 360 |
| | TCGCCTCAGC | AACAGAATCT | GGAATTGGTC | AACCTCTCCTG | AGCAGGTGAT | CCCGGAGTCC | 420 |
| | AAGCCCAAGG | TTAAATACGA | TACCATCATC | GAAGCCCTCG | GTCTGTGCTC | TCACCATGAT | 480 |
| 10 | CCTGTACGGG | CATTGAAAAA | CTTTGCGAAA | TTGCTAAAAGC | CTGGCGGAAG | AATAGTTCTG | 540 |
| | CTTGAGCATG | GCAGAGGGAC | CTATGACGTT | GTGAACAAGA | TTCTAGACAA | GAGAGCCGAG | 600 |
| | CACCGTCTCG | AGACCTGGGG | CTGCAGATGG | AACCTGGATA | TTGGCGAAAT | TCTAGATGAC | 660 |
| | TCTGATCTAG | AATCGTCACC | GAAAAA | | | | |

1544UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCAAATTC | CAATCTCCGT | CAGCGTCAGG | CAGCCGCGTT | ATGTGTTGAA | CTCTTCGCTG | 60 |
| | CTTCTCTTCT | CTTCGCTGAA | CCCGCAAGAA | AATTCCACCT | CACGCCGAAC | CAGAGGCGAA | 120 |
| | AAACTGAAAA | TGAAATAAGG | CGCCGGCTTC | CGAGGACGTT | GCGGGCTCGT | GCAGCTCTAC | 180 |
| 20 | TTGCAATACC | CGCAATAGGA | CTACCAGACC | TTATTAGACA | CTGTAATATG | TGGGCAGCAG | 240 |
| | TAGGTGCAGT | CTACAAACTT | TTATAGCGCA | GCCGGGCGTA | TTACTCTTTT | CTGCTCCCGC | 300 |
| | GTCCGCGATA | AGTTGTGACT | CACAGTCCCG | CGGACGGAAC | GTGCGACCGA | GTGCGGCGAA | 360 |
| | TAATGAGTAA | TGTTCTATGT | ASTGTTTGCT | AGGGGGCTGA | AGGCTATGCT | CTGGGGTAGC | 420 |
| | TGGAATGTCA | CGCAGAACAT | GGGCTTCGTA | GGTGCCACTT | TGCGCACGAG | GTGGAACGAC | 480 |
| | AGCGCAGTCA | TCGGCAGGAT | GTCTGCGCTG | GTGTGCATTA | TCTCGAGCAC | ACGGCGGTGT | 540 |
| 25 | ATGCGGGCGT | GCAGGTCTGC | TGGCGCGGGC | TCGGGCTCGT | CGGGGCTGTA | TTTCTCGAAA | 600 |
| | CAGTGACAGT | GGATGTAGGG | CAGCACCAAW | TGCTGGGTCTG | GCAGCGGCGT | CCTCCGAGAT | 660 |
| | CCGTGGCGCG | AGTACAGCCC | GGC | | | | |

1545RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATTAAT | CAGCCATCGC | ATACCCGGGC | AAGATGACCA | TTAGCTCCTG | CTTTCGACAG | 60 |
| | AAACAACGGA | CTATGGGTAT | AGAACTTGAT | GATAGAAGGT | TGAGGCATTT | AAAAAAGTGG | 120 |
| 5 | CTAGACCGGG | CTTTAGATCC | GCCTACGACA | GACGAGAGCG | TCACAGCCCT | TGTGAAGGAC | 180 |
| | TATGTACTAC | AGGTACTACT | AGAGTGCAGC | ATCGCAGCTG | TGAAGGGCCG | AAAGAACGAG | 240 |
| | TTCTGCGAGC | AGATGAGCCA | GTACCTGGCA | GGTATGOTGA | AGGACCACAG | CTGTCTAGAT | 300 |
| | GGGTTGTTTT | ATCAGCTAGT | GGACTTAGGC | GAGCCTCCCG | CGGGGAATAG | TTGCGGGCGA | 360 |
| | CAGCTGCGTG | TCCTGAAAAT | CCCAGCGGAC | CGGCTTCGCT | GGGAAACCTT | GCGTCCGGAG | 420 |
| | TTTGCGCCTT | TTGGAGCGGT | CACCAGGGCG | AGGATTGATT | ACGTGCATCG | TGAGGCATTC | 480 |
| 10 | TTGGAGTATG | CGGATGCGGC | CAGCGTCGTC | CGATGTTGTT | CGGTCCGGAA | GGCTTTCTTG | 540 |
| | GGGAACCGGT | TCGTTGAGGT | GCAGCCCTGC | TCGCGAGGCG | TGGGAATCAC | TAAGCGGTGT | 600 |
| | CGACGTCTGG | CCGCCGGATC | ACGAAACAAC | TGTGCCCGAG | CATGGATCAT | CTGGGGTGCC | 660 |
| | TCCGCGAACT | GGTGTGTGCT | TGGATCGTGG | ACGTGCGCCT | CCGCCTGTCA | TCTT | |

1545UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCTTG | CAGGGACCGC | WCCACGTGGC | GTAGAAGTCC | ACGACCACGA | GCTTGTCGGA | 60 |
| | GCCCACGGCG | GACTCAAATT | CAGAAAGGGA | CTTGATTTTC | GACACCATTG | CGTTCTGTGT | 120 |
| | GGCTGACTGT | ACCTTGTTGA | TACGCAGTAC | CCAGGAAGCC | GGGCGGAGCC | CCGCCTTTTA | 180 |
| 20 | TACCCGGCCG | CCTCGGGTCA | CGTGTCAACA | CGTGCGGGCT | CTCCCTCTTA | TTTCCGCTCA | 240 |
| | GGAGATAAGG | ATGACAAACG | CGTCTCGCG | CGGTCCGCAT | TGACGTCTTC | GACAGCAATG | 300 |
| | GAACCTCTGC | TATAAGCGGT | GTCTGCGCGC | CGAGCCTTCT | CAATCGTCCG | TCTCTCTGTT | 360 |
| | CGCTTTGTGT | ACGCCAGGCG | CGGGTTTGTT | TACGTTTCGG | ACGGGGTTGG | ATCTCCAACG | 420 |
| | CACGGTCGAA | TAACGAACAT | GAAAGCCAGT | TGTACAGTAG | CTACACCCCA | GCAGACGAAG | 480 |
| | CATCAGCAGG | CAGTTGAGAG | CGCGTACGAG | AAGTTCCGTT | ATAGAGCACA | CTCGAGACCA | 540 |
| 25 | TAGAGGTCAT | CCGCTAGGCG | GTACTTCAGG | TCAGGC | | | |

1546RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTGCTG | CTATCCAGAA | ATGGGAAGTT | CTTAGACAAC | GGGGAATTAA | GCCCCTTTTC | 60 |
| | CAATATTTTG | AGCGTCGTTT | CATAGCTCGG | AAGACGCAGC | AGAAGCCCCC | CCAGTAGTGT | 120 |
| | CTGTTTCATGT | TCGCTCATGA | AAGGTGTCTC | TATCAAATCT | AGCTCCATCA | TCGCAGAGTA | 180 |
| | GTTATTATCT | TTCTTCCAAG | ACAGACGCAC | ATGCCGCAAC | TTCTGTCAGGA | TTACAGTAA | 240 |
| | ATAATGGTAG | AACCGCGGAC | TCACAGAAGC | GACGACCGCT | CGAAATGAAG | TCGGCCCGTA | 300 |
| | AAAGATCGTG | CGGCCCTGCT | TCTCTATCAC | AAGATGGAAC | TGCCAAAGTC | TGTTACCGGG | 360 |
| | GGACACCGTG | CCCATAACGT | GCTTCTGCAT | GAACAGCTGC | GGTACCATCT | CGCTCTTCAT | 420 |
| 35 | CCGCGCGAGC | TCAGTCTCAA | GCTCGTCCAT | CCGTCCGAGC | AGCTCCACAT | TGGGCGTCCA | 480 |
| | GCTGAACAGC | TCCCGTGAGT | TCACGTCGTG | CGTAAACTCA | GACAGGTACA | CACACTCGGG | 540 |
| | CAGGCCCTTC | CCAATACATG | TAGAGCACTT | CGGCCGCGCC | TTGTTGCACT | TGACGCGCCG | 600 |
| | CTTGCGGCAG | AACACGCACG | ACTTGCTGAC | CTTCCGCCTG | GTTTTACAA | TCTTGCCATC | 660 |
| | GGACTCTGCC | ATCCCGCCAG | CTTCAAGCAA | AATGAGTAGG | TCATATTATT | TACCTGCTGG | 720 |
| 40 | TAATCTTGAA | TAATGCTCAC | T | | | | |

1546UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCGCGGAC | TGGAACACTG | GCCGGAGATG | CGCGCGGCCA | TCCTGGTGGT | TTCTGCGGAC | 60 |
| | CGCAAGGACA | CGCCATCGAC | GAGCGGTATG | CAGCAGACGG | TGCACACGTC | GGACCTCTTC | 120 |
| | AAGGAGCGCG | TCGCGACGGT | GGTGCCGCGG | CGGTACGGAG | AGATGGCGGC | GGCGATCCGC | 180 |
| | GCGCGCGACT | TCGCGACGTT | TGCGCGCCTG | ACGATGCAGG | ACTCGAACTC | GTTTCACGCC | 240 |
| | AACTGCCTGG | ACTCATTTCC | GC CGATCTTC | TACATGAACG | ACACTTCGCG | CCGGATTGTC | 300 |
| | AAGCTGTGTC | ATCTGATCAA | CGAGTTCTAC | AACGAGACCA | TCGTGGCGTA | CACGTTTGAC | 360 |
| | GCGGGTCCGA | ACGCGGTGCT | CTATTACTTG | GCGGAGAACG | AGGCGCGGCT | CTGCGGCTTC | 420 |
| | CTCTCTGCGG | TCTTTGGCGC | CAACGACGGC | TGGGAGACCA | CGTTCTCGAC | GGAGCAGCGC | 480 |
| 50 | GCCACCTTGC | CCGCGCAGTT | CGACGAGTGC | GTGCGCGGCA | AGCTTGCGAC | GGACCTTGAC | 540 |
| | GACGAGTTGC | ACAGAAGAGT | TGCCCCCCTC | ATCTTACGGA | AGGTCCGGCC | AGGCCCCCAA | 600 |
| | GACACTAAAT | CCTCGCTCAT | CGACCCGAGA | CGGGCCTGCC | CGCTGACGCT | ATTCTCTGCG | 660 |
| | TATTTTCTGC | TCTGTATACC | CTGCCAGACC | GCGCTATATA | TATAGAA | | |

1547RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCCTCCGC | CTACACCAGA | ATATTTCTGG | CCAATTAGTT | GTTCAACCATC | GCCCCGAACG | 60 |
| | TTGGTGAAGC | CACGGCCATA | CGTGCCATG | CCGAGTGCAA | TTTTTCTTGG | GCTGACCTTA | 120 |
| 5 | AATGTGTCGG | TCATCATGAG | TATCGCATCA | TGTGCATTCA | ACTCATCAAA | GTTGTCAATA | 180 |
| | CCCATATCTT | CATACCGACG | CTTATCTAGG | TGCGATTGTT | ACGGCGAATT | CGTAGCATTG | 240 |
| | TACAAGTTGC | TATGGTAGCC | TGTTGCTCT | GACCATGCAC | CGTGGTAGTC | GTATGTCATC | 300 |
| | ATATTCCACA | TGCTGAGATA | CTTGTTTCATC | TCCTCAACCG | GGAAAATGCC | AAGTGTCTGA | 360 |
| | GGAAAGGCCG | GTGCTGCCAT | GCTTAAGTGG | AAGCGCGGTT | CTGTAGTCCC | GCCGGGGCCC | 420 |
| | CAGATATTGT | CTTCCAATTG | GTCCATCTTG | TGTCGCAAGC | GGCTACACAT | TTCTAGATAC | 480 |
| 10 | ATCTGGGGTT | CGTAGCCATC | ATCCTTAGGG | AACTCCCAGT | CAAGATCTAT | CCCATCGAAG | 540 |
| | CCGTACTCAA | ACATTGCGTC | GATCGCCGAG | TCGATGAAGT | TGTTAAACTT | CTCCTCGTCA | 600 |
| | CGCACAAATT | TATGGAACGG | CTCCCGATTG | GAACAGCCGC | CAAACGGGCAT | CATGAGCTTG | 660 |
| | AAATCGGTCC | CTGGCCGCGT | CTTGAGGTAA | TTAAGCTTCG | CCTATTGCCC | | |

1547UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCTGAG | GGTTCCAAGG | CAAGCCCGCC | GGAGCTTGCC | CAAATTGTGT | CACCCGCTCT | 60 |
| | CGAGTAGATG | GTGGCCTTGT | CGACCTTCCC | GGTTGCTAAC | AAGTTGTCAG | TGTAGGCTAA | 120 |
| | AGCTCTAGTT | AGTACCCACG | AACGGGCCAC | GAGCAGAACA | CGTAAAAACA | CATACCTTGC | 180 |
| 20 | CAGACATGA | TGCGTTCCGG | ATGAAATCTG | AGTTAGTGCT | AACACTCGCA | GATGCTCTGG | 240 |
| | TGAGTGAAAT | CTACGTATCA | ATAGTATTGA | TTTGTCAATA | AATATACCTT | GGCTTTTTGT | 300 |
| | AATCTTTTTA | TATAAGGGGT | TCCGATCTGC | TGACATCATA | GCACACGAAT | TAAGTATCCG | 360 |
| | GGTAACGAAC | TGCCCGGGTA | ATGCGGGGCA | CAGGGCAAGT | GCCGGGTAAC | GGCATCCACA | 420 |
| | TACCGCAGAG | ATGCACCTGG | GGCTACATAC | TGTACACAGG | CTCGCAGCTA | CTCGTCTGCT | 480 |
| | GAGTCGAGAA | CAGCCACCTT | GCGACGCTTG | AGAGCGACCT | CTTCATCTGC | GCGCGGGGCC | 540 |
| 25 | GGCGGGGCAG | CAGCGTACTT | GGCTGCGCCC | TCGCGTTTCA | GCTGCTGCAG | ACGCGCGGCG | 600 |
| | TTTAGGTC | | | | | | |

1548RP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|-------------|-----|
| 30 | GATCATCATT | GCTCGGTTAG | CGATTGCCGG | CAATTTTACA | GCTGGTTTCAT | CGCTAGGCGG | 60 |
| | TAAGGCGACC | GCGGGTAGTT | TCCTGTCTTA | CGGGTCCGTG | GTGTTTGGTT | TTGCATCGGG | 120 |
| | ATGGACAACA | TATGCTGCAG | ACTACACTGT | CTACATGCCC | AAAAATTCTA | ACAAATACCG | 180 |
| | CATCTTTTTT | TTTATGATTG | CGGGTCTTGC | GACCCCGTTG | CTGTTTACGT | TGATTCTTTG | 240 |
| | AGCTGCTGCC | GGGCGCTGTG | TGCACACAAA | TCCTACGTGG | GGCGAATATT | ACAAAAAACA | 300 |
| | TTCCGTGGGA | TTGCTGTGCT | TTGCTATACT | GGCTGAAAC | GCTCTGGGCG | GGTTTGGGCA | 360 |
| 35 | GTCTGTCTGC | GTTGTACTGG | CCAATGTCCAC | AGTTGCAAAC | AATATTCCAA | ACATGTATTTC | 420 |
| | CATCGCTCTC | AGCACCCAGG | CGCTGTGGAG | TCGTTTCCGG | CGTGTGCCAC | GAGTGTTCCTG | 480 |
| | GACCCCTGGT | GGCAACGCAT | GCAGCTTGGT | CATTGCAATC | GTTGCGTACT | ACAAGTTTGA | 540 |
| | GACCTTCATG | ACCAGCTTTA | TGGATTCAAT | TGGCTACTAC | CTCTCCATAT | ACATCGTAAT | 600 |
| | ATGTGTCACT | GAGCACTTCG | TCTTCCGCAA | GGGCTTCCGT | GGTTACACGT | CAGCCACTGG | 660 |
| 40 | GAACGTCCCG | ATCTTCTCTC | AGTGGTTTAC | GCTGGCTGCG | CTGCGC | | |

1548UP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGACAGA | TTACAGTTAC | AAGCGAGAGT | TGGGCCTATT | TAAGGAACAG | AACCTATACC | 60 |
| 45 | ACATTTGAAG | CTCGAGTTTT | GGCAGCCCAA | GACCGATTG | CGGATTAAAGT | ATCTTGAAGT | 120 |
| | TTGCACTCAG | ACTCAAGAAC | TACTATTACG | ATACTATAAC | AAAGACGATG | ACTAGCACAG | 180 |
| | CCGACACAAA | GCAGCCCAT | TCGTTGAAGG | TTAACGGGGC | TCTATTGAC | GTCGACGGGA | 240 |
| | CCATCATCAT | CTCGCAGCCC | GCGCTAGCGG | CCTTCTGGAG | GGAGTTTGGC | AAGGACAAGC | 300 |
| | CGTACTTCGA | TGCGGAGCAT | GTCTATCAGT | CCACCCACGG | CTGGAGAACC | TACGACGCCA | 360 |
| | TCCGTACCTT | CGCGCCAGAC | TATCTGAGTG | AGGAGTACGT | GACGAGACTG | GAGGGCGAAA | 420 |
| 50 | TCCAGACAAA | GATACGGCAAG | TTCTCCGTGG | AGGTTCCCGG | CGCTGTTACG | CTCTGCAATT | 480 |
| | GCCTTGAACR | AACTTCCGAA | GGAAAATTGG | GCCGTGGGTA | CTTCCGGCCC | CTTCCAGATG | 540 |
| | GCACCAAGTG | GTTGATGTCT | CTCGGCATCA | AGCGTCTTAG | CACCTTCATT | | |

55

1549RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTGCTTG | GTCTGACCAC | CGAAACCCGA | CTGCTTACGG | TCATATCTTC | TCTTACCCTG | 60 |
| | AGCAAACAAG | GAAGCCTTAC | CGGCCTTGTA | CTGGGTCAAC | TTGTGCTGGG | TGTGCTTGCG | 120 |
| 5 | GCAGGCCTTG | CCCTTGCACT | AAGTCTTTCT | GGTCTTTGGA | ACGTAACTG | CACACGTTAG | 180 |
| | TATACGTCTT | CTTGCGAGT | CCCTTTTCCA | TCTGCAGCCG | CGCCGTCAGA | AGGCCCTGCT | 240 |
| | GTAGCGAGCC | GTGGCCCCCT | GGCGGCGCTC | CGCGCTTCCC | CTCCGTCATA | TTGAACATAC | 300 |
| | CCATTGCGAG | AAGTAGCTTC | TGTGATGCTC | TGTGCTTACT | ATCAAGCAGG | ATGACACCCG | 360 |
| | GCCTTGAATC | CTGAAATTTA | CCATGTTTTT | CGCTTCGCGA | GCTCGGCCCG | CGGGCCGGCC | 420 |
| | GGCTGCCGCG | CCGGAAGGTC | CAGTGCTGCC | CGGCCTGCGT | CGCCCCAGTT | CACCCGGGCC | 480 |
| 10 | ACCACGCAGC | GTGGTGATGC | ACGCATGTGC | AGTATGTGTG | GGTGTGAAT | AAATAGATGT | 540 |
| | ATGGGTGTAG | TCACATGTTT | GTCACAGGCA | CTCCTCCGCG | GCTAACGCCCT | CGAGATTGGC | 600 |
| | CAATGCGTGT | GGCGGCATAG | GCGATGGCAG | CCATGCCTTG | AGCTCTGCGC | GGGGTTAGAG | 660 |
| | CCCAAGTCAT | TAGACTGCGG | CACTGCAAGC | GTCTGACCGG | CAGGTTTTAA | GCTGGTGTGT | 720 |
| | GGCCCTGCGC | TACGTT | | | | | |

15

1549UP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCCATGTA | TAATCACCCC | ACAGCACCTT | TTGCAGGTTT | TGCGGCTTGG | CCCCCAGCTT | 60 |
| | CTGCTCGTAG | AACCTCGCAA | ACAGACTGAC | GTTGAACCCC | CACCCATCTG | CAGCAGAGGC | 120 |
| 20 | AAAAATCACA | TTGTTCCGGG | ACGGGTGCGA | GTATATGTCC | GCATCATCCC | GCTCCACATA | 180 |
| | CTCGGCCTGG | GCGTCTTGCT | CCAGTTTCTC | TCTCCACGAG | AGGTTCATCCA | GCAGCCGCTC | 240 |
| | CCCGGCAAAAG | AAGGACCCCA | GTACAGAGTT | GACCTGTTC | ATCGTCTTCG | ATAGATGCAC | 300 |
| | GTAGGCCTCC | TGTGGCGTCA | GCTGGAGCTC | CGTGATCAGC | CGATCGATCT | TGTTTCAGCAC | 360 |
| | CAGGATTGGT | CTCAGCTTCT | CCGTCCAGCA | CTGCCGACG | ACCGTAATCG | TCTGCGAACA | 420 |
| | CACACCCCTCG | ACCACGTCCA | CCAGCACGAT | CGCGCCATCA | CATAGCCGCG | ACGCCGCGCT | 480 |
| 25 | AACCTCGCTG | GAGAAATCTA | TGTGGCCCCG | AGAGTCGATC | AGGTTGATTA | AATGTTGCTT | 540 |
| | GACCAGCGCG | TGCTGTCTCC | CCTCTGTGTT | GTGAAGCACT | CCGAAGTTAC | AGAGAAATCG | 600 |
| | CACTGGACTC | CATCGTGATG | CCTCGCAGCT | GCTCATCTGG | CCCGAGTCT | AGGAATCGCA | 660 |
| | CTTTCCCCGC | TAACCGCTGT | GAGATAATAC | CGTTGGATGC | GAGGAGG | | |

30

1550RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGTAC | ACAAAGTACA | TGGATGCTGC | CAATAACTAT | AGTCTGAAAT | CAATGCGTTC | 60 |
| | CTTAGCGAAT | GCAGATGAGT | TGGCGCAGCT | GGCATCATTT | AACTCCATCA | GCCATTATTT | 120 |
| | ATTGGCTGAA | TGCGCATCTG | TCCAGACACT | ACAAATTTTA | TTAAGCTCAT | CTAAATTGTA | 180 |
| 35 | CCCAAAATTA | ACGAAGGAGA | ATCAAGAACT | TGCAATTATC | GAAACACTGC | TGTCTCTCAG | 240 |
| | TGAATTTACG | TTGCTGCACG | ACTTCTCTCT | CCAGGCAGGT | TTCCAGGTG | AAAAATCGGT | 300 |
| | CATTTTGAAG | TACTTTTGGC | GCTTTTTC | CAGCGCACCA | AATGGGTCCA | GGGGACCGGC | 360 |
| | CAGAAATGAC | AAAGGCGAGG | AACAATCTTC | GCTTACTGCC | CAAAAAGGAC | TATTATTATC | 420 |
| | TTGAGACTCT | TCTTGATGTC | GCAGACGCTT | TGGCAAAGTA | TTGCTAAGC | TACTCACGTG | 480 |
| | GACAACCCCT | CAGACCATCG | CATATATTGG | ATCTCAAAGA | TGATCCATTC | AGAATCATAA | 540 |
| 40 | GCAAACCTGCT | AGAAACGAAT | CCCAGTCTGT | ACCGTGACGT | TGAAACGACT | TTGGAATCC | 600 |
| | TCAAGCAATT | ATATGAAGGA | TTGCAACTGC | AGCCTCATGA | TCCAAAGTAC | ACAAGTGAAT | 660 |
| | ATACCCGTTT | GCTAGTCTGT | CACATPGATT | GTGCATTGGC | AAATAT | | |

1550UP

| | | | | | | | |
|----|------------|-------------|------------|-------------|------------|------------|-----|
| | GATCTCCTCC | CGCGATATCA | TGTCTAGCCA | GGATTCCAGG | TGTTCACTAT | CGCTCATGTG | 60 |
| | TGCCGGTTTA | CTTGAATCCA | TCCATTCTGC | CGCAGCCATG | ATATACTTGG | CGCGATACCC | 120 |
| | AAACCCCAAA | TCCCGCAGTG | CGTCTCTGCT | AGCGCCTTCC | ATCAGCTGCT | TGCTGGTGGG | 180 |
| | GAATGAGTAG | TATGGAGTAC | CGTCGAGCTC | GCCGAGGAAG | CTCCCGTACT | GCGAACACAG | 240 |
| | TGCATGGCAC | ATCTTCGTGA | TGCGCCCGAT | ATTGTTGTTG | CTAGAGCAAA | TAAACGAGCA | 300 |
| 50 | CAGTGTCTCC | CAGGGTTCTT | GTCGCAATTA | TGCGACGCCA | CGATGTGTTT | TCCCGATGAA | 360 |
| | ACGTGTGTCT | CGTTTCTGCC | ATTCTGCTAA | CAAAGCCTCT | AGGTTCACTT | CCATCCGTAG | 420 |
| | GTAGCGCATC | AGCCATTGTC | GTGCGCGCCC | GCTGCAGTCG | TCATCTTTAT | TCCGACCTAG | 480 |
| | GCTGAATTCA | ATACTGCACT | GATCGGGCTG | CTTCAATACA | ATAATACGAT | AGCCACGCTT | 540 |
| | GTCATTTAGT | AGCATGCTCG | CGGAATAGTA | CCTTTTCTCA | TGATTCCAGA | TCCACCTGAA | 600 |
| | CGCTTGACCA | CATTGCAATA | CATGGTCCAG | GACTAATTTCT | CCCTTTGGGA | ATATCAATCT | 660 |
| 55 | GTAAACTTTC | ATAACTGTCTG | ATACAGCACT | GACCTCGCTC | TAATAATCAG | CGTCACCGCC | 720 |

CTGGCTCGAG CATGTT

1551RP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTCACGT | GAATCGGATA | TCTGCTCAAC | GGCCAATTCT | CGTATATTCT | GACGAGATCT | 60 |
| | TGGCGTCAAT | TACGTGCACT | TTGGCCGAAG | CCTTCGCACG | AGCTTCTACG | ATACAGAATG | 120 |
| 5 | CTGCCAGGTG | CATCTTAAAA | AGCGGGTTTA | CAGTGAGCCC | TCCGTCTCTC | AGGGCACCAG | 180 |
| | CCCCAACTG | TACATAGTTT | CTGTTATGTA | GTTTGCCCTT | CCTCGCGATG | CCTGCCTCTT | 240 |
| | GTGGAACAAA | AACAGGCGGT | AGAAGGAAAT | TCCCCTGCGT | CATCGGTATC | GGACGGCGTC | 300 |
| | TGCCTGGATC | TGCGGAGTAG | CTTTATGAGC | CATTAGTGAG | GAACGCCAGT | TTCGACGACA | 360 |
| | GATTTAGTCT | TTTCTGTGTT | CCTGCAACAA | GGCTTGGAAT | GTATCAGCGC | GCTGGCGCAG | 420 |
| | CGACAGGCGA | CACCGCTTCA | CATAGGGAGA | GGCCACCCAC | TGAACACGCG | GTGCACTGTC | 480 |
| 10 | AGGGGGCGCA | CGCTACTGCC | TACAAATGGTA | TCGTCCGCAA | ACGGCAGGCC | AACCGGCAGA | 540 |
| | CCGGGCGATT | AGATCTAAAT | TTATCAGCCC | ATGGACGGAT | GGATTTACGG | CAGCGTGTCC | 600 |
| | CCGCAGCACG | GGGCAACCCA | GACTGCGAGG | TGGCAAATAA | TTACATAGC | AACCTGCATT | 660 |
| | ATAAACATCC | CAAGTCATTA | AACCTACTAA | ATATTGTTGC | GT | | |

1551UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCGGTG | AAGCTGCGCA | ACTGCACGGT | GGCTACGAG | GACCCGGGCG | GCGCAGTGGA | 60 |
| | GCTGGCGCAC | TACGACTACT | CGAGCGAGCT | GGACGCGTAT | CTGAAGGATA | TCGAGGTGGA | 120 |
| | GTACGAGGTG | CTGGCGTACA | ACTGGCCGAC | GTTTCTGGCG | TACGTGCAAG | AGCTGGAGGA | 180 |
| 20 | GGGGGAGTTT | CGCGAGTTCT | TCTGCGAGCT | GCTGCCGTAT | GCCGCGGAGA | ACGAGGTGTA | 240 |
| | CGGCGCGAAG | CTGTGGGCGG | GGCTCGTGAA | GGAGCGCTCG | ATGCAAGGAG | TGATCACCGG | 300 |
| | CAGAAAGCGC | TCGTCACTCA | CGCCTTGTCG | CGCGCGAGGA | GGAGACGCGC | CGACGGCAGG | 360 |
| | TGGAGGACGA | CTGGCACAGC | AAGCTCGACG | AGCGCGACCG | CTTCCTGCGG | CTGCGGAGCA | 420 |
| | AGCTCGTGCC | CAAGCGTGCC | AAGAAGACCA | AGGACGCGCT | GTGGACGGTG | CTGTGGGAGC | 480 |
| | GCTTCCAGAG | CGACGCTAAG | ATCGAGAAGA | TGCGGGCGCG | CAACGAGGCC | GCCACGCCCG | 540 |
| 25 | AGGCGGGCGG | CGACGAGCTC | CTGACGCCCG | CGGAGCGCTA | CGCGCTGGAG | CAGGGGCAGG | 600 |
| | GCTTCCTTGG | CGCCTGTCTG | CCCTGTCTCG | GAGCCGGCGC | CGGCCCTGGC | CGTGCCCTGC | 660 |
| | AACGAGCTTC | CCGATGAATA | CTGCATCACC | AAGACTGACT | TCGACCGGCT | CGCTAGCCAC | 720 |
| | GGCATCCCGG | TCGAG | | | | | |

1552RP

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|----|-------------|-------------|-------------|------------|-------------|-------------|-----|
| | GATCGTCCGG | TCAATGCCACC | ACAACCTTCCA | CGTCCACTGC | ATCTACCAGT | GGCTCAACAC | 60 |
| | CTCCACGTCC | AAGGGCCTCT | GTCCGATGTG | CAGGCAAGCG | TTTTCACTCC | GGGAGGGCAT | 120 |
| | CCGCATTAAAC | GAGCCCCACC | GCGACAAGTT | CGAGAAGGTG | TTGATGAAGG | CGCGCCAGCA | 180 |
| 35 | GAGCGTGGTG | AGCGTCCGGG | GCGCCAAACC | GGTGGGGCCG | GACCAGGACG | ACGTCAATCAT | 240 |
| | CKACCAGGAG | TTTCATCCGCT | GACACTAACT | AGCCTGTGTA | CCCATGTAAA | AATAATGCTT | 300 |
| | CCAACCAGAT | TCGAATGAT | GATCTCCACA | TTACTAGTGT | GGCGCCTTAC | CAACTTGGCC | 360 |
| | ATAGAAGCAA | TACGAGCGTC | TAGCGGACTG | CGCCGGGCTA | TATGCGCCCG | GCGTGACCGC | 420 |
| | GACGAAACGC | TGGCGCCCAA | ATACCTGATC | CCAGGTTTCC | AACGCTGGTC | ACGCAACTTC | 480 |
| | TGCCACGTGC | ACTGCACACC | ACGCCAGCAC | TATATAGCCC | CGCAACCCGC | AGGCGTTCTT | 540 |
| 40 | GCCAGGTCAC | CGCGTCCAGC | TGTGCTGCA | GCATTCCACC | TGAaaaaagTT | TCACCAGCAG | 600 |
| | AAAGACTTTT | CCACTTCTCA | ATAGCACTTC | TATCCCCTAT | TTCTCTAGCA | GTTTTGCAAT | 660 |
| | GAGCTACaCT | ACCAGACAGA | TTGGAGCTAA | GAACACCTTG | GACTACCGGG | TGTTTCATCGA | 720 |
| | GAAGGCGGCA | AGGTGCTCTC | GCCGTTCAC | GACATCCCAT | TGTaCGCGGA | nGAGAgAACC | 780 |
| | aATCTTcAAC | aTGGTGGTGG | AnAT | | | | |

1552UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTGCA | ACACGCTGC | GCCCCTAGTC | CGTGCGAGTG | CAGACTGCGT | CGCCGAATAA | 60 |
| | ATAGCTTTGT | GCCAGGCGGT | CGCCGAGGCG | TTGCGGGACT | CACCGCATAA | AAGAAACACG | 120 |
| | CTGCGGCGCG | GCGGCCGCAA | AGCAGCCAGG | CGCAACGGGC | GCGCCGCAAA | AGCAACCGTG | 180 |
| 50 | ACACACGATA | TGGCAGATT | ACRTACATAT | TATACATAGC | CGGCCGCGGC | ACGCGGCTCA | 240 |
| | GCCGCCGAAG | CCGTACAAATG | TGCGGCCCTG | GCGCTTGAGC | GCGTACACGA | CGTCGAGCGA | 300 |
| | GGTGACGGTC | TTGCGCTTGG | CGTGCTCGGT | GTAGGTGACG | GCGTCGCGGA | TGACGGACTC | 360 |
| | CAGGAACGAC | TTGAGCACCG | CGCGCACGTC | CTCGTAGATG | AGGCCGAGGA | TGCGCTTGAC | 420 |
| | GCCGCCACGG | CGGGCCAGGC | GGCGGATGCG | GGGCTTGTTG | ATGCCCTGGA | TGTTGTGCGG | 480 |
| 55 | GAGGATCTTG | | | | | | |

1554RP

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|----|------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCAAACTA | GGAATTTTGT | ATAATACTGA | AGAAGGTCCC | ATATTCAAGT | CTCTATCCAG | 60 |
| | CGATGATGAG | GAAAGTGGGTG | AGATTGTGCT | GCACGACCTG | ATGAACAATC | TCGATTTTCAT | 120 |
| 5 | AACTATGGAT | CATCCTGACA | GATCGAGAAA | CCAAACTCAT | CAAGATAGAC | CGATGATGAT | 180 |
| | CAAGAACTAG | TTTGAGATCC | CTCTGCTACA | AACACATACC | TAGATTTCTC | ATATTTTATA | 240 |
| | CTGAATACAT | ATAATATATC | ATTTAACTGT | CTTCATTTCAT | GAGACGTCGT | CTAAGTTCTG | 300 |
| | TGCTGCTCAA | CTTGTTTTTC | CACCTGTGTC | CCTCTTCGCC | CCCCAGTACG | TTCAACCAT | 360 |
| | GCACGGCTAG | CTTCCTCATT | CCTTTGCTCT | CACGCGTATC | GTTGATTGTC | TGGGCACCGG | 420 |
| | CCACAGTTTC | CTCACTCACT | ACCAGGGCTT | CGATAACCAG | TTGGCTACCC | GTGGGCCCGC | 480 |
| 10 | ACACGTCTTG | TAACGCAAAAT | ATTTTGATTT | CCAGCCCCGG | TTTCAGCCTG | TGAAGGAAGC | 540 |
| | TGCACACGTT | ATCGCATCGT | TCGTGCAAGG | ACTGAAGCTG | CTCCCTGTAT | TTCTTGTTCC | 600 |
| | GCAGCAGTTC | TTCATCTGTA | ATCCCCACGA | TCAGCCGGGA | AGCAGTCACG | AGCGCGGCAA | 660 |
| | CACTGAGCAA | TATTTTATGT | CCGTCTGTGA | AGTGGTCGAA | AGTGC | | |

1554UP

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|----|------------|------------|------------|-------------|-------------|-------------|-----|
| | GATCACTGAG | GAAATCAAAA | CCTTGAGCAG | CTTCCCTGTG | TTGCGGTTGT | ACGGTGTGGA | 60 |
| | CTGTGCCCAA | GTTGAGACTG | TCCTCCAGGC | CAAGGCTCCA | GGCCAAAAGC | TCTTCCTAGG | 120 |
| | TATCTTCTTC | GTGACCAAAA | TTGAGGCCGG | CGTGAAGGCC | ATCAAGGAGG | CTGTTTCAGAA | 180 |
| 20 | GCATGGATCC | TGGGACGACA | TCGACACCAT | TTCTATCGGT | AACGAACCTG | TGAACAACGG | 240 |
| | CCAGGCGACC | GTGGACCAGA | TGGCTGGTTA | CATGAAAACT | GGCCGCAAGT | GCCTCGCTGA | 300 |
| | GGCCGGCTAC | AAGGGCCCAG | TTGTTTCCGT | GGACACTTTC | ATCGCTGTAA | TCAACAACCC | 360 |
| | TGGTCTATGT | GACCTATCAG | ACTACATGGC | TGTCAACGCC | CACCCATACT | TCGACTTCCA | 420 |
| | CACCTCTGCT | GCTATGGCCG | GCCCTTGGGT | TTTGCAACCAG | ATCCAGAGAG | TCTGGAGCGC | 480 |
| | CTGCAACGGT | AACAAGAAAG | TTGTCATCAC | CGAGACCGGC | TGGCCTACTC | AGGGTCAGAC | 540 |
| | TTACGGCAAG | GCCATTCCAT | CCAAAGCCAA | CCAGAAGATG | GCCTTGGAAAT | CTATCAGGGC | 600 |
| 25 | CACCTGTGGT | GATAGCGCTA | TCCTATTTAC | TGCTTTGAC | GACTACTGGA | AGCCAGATGG | 660 |
| | GCCCTACGGT | GTGAGAAGT | TCTGGGGTAT | GCTATAAGTT | GCCGTGTGCT | TCTTTATGAC | 720 |
| | CTGTCTC | | | | | | |

1555RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCATACAC | GCATTGCAGG | TATACATTAT | AGTGCTCATA | ATTATCGGAT | TGCAATAGA | 60 |
| | ATGGGGCCCT | TACCGTAGTA | CTGTCTTGGT | AATGCAGCGA | CGCTCAGGCT | TAAGAAGCTT | 120 |
| 5 | TTTGTTCTCC | GTGTATTACT | AACAAAATAA | TTTCTCGAG | CACAGGGAGT | AGAGATGAAT | 180 |
| | TACATAATCC | ATATGGACAC | CTCGTCACCT | TCCAGCGACA | TTAACATTTC | CTTATGAATG | 240 |
| | CCCAATAATG | GTGCCTAAAT | GATGTGCTTG | GTGTAATGCG | CATTATAAAA | TGTATGTGGA | 300 |
| | TTATATATTG | TTGTAGCAT | CTAGTAAAC | CATGGTAGCG | AGGTCTTTGG | CCATACCCTT | 360 |
| | CTGAAGAGAG | ACATAGCAAC | AGTGTCTTGT | GCAGACAGTC | TGCCGTCGAA | TGTTGCCTTG | 420 |
| | AAGTAACCAT | GAGTACCAAG | ACTCTCCCTA | ATGAAGCCAG | AGCGTCCAGA | TTTCGTGAAT | 480 |
| 10 | AGTGGGATCG | ACTTGAACCA | CTCGACATCT | TCTGGCCTAA | AGAACATATA | GCGCACTGTG | 540 |
| | ACGACGCGCT | TGTGGAACCT | GAATGGATGG | GCAGTTAATA | TGATTCTCTT | GGCCAATATC | 600 |
| | CGTGTGTGGT | CTGCGTTTCAG | GAACGTGCCG | TGGCCACGCA | ACGTCAGGCC | CTTTGGATCA | 660 |
| | GAAGGGTTTT | CTTTGAAGTA | GATGGCCGGT | GACTGGGTCA | GGTCCAAGGG | AA | |

1555UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTGGGAA | ACAAGCATTG | CAACCTAGTT | GGAATGGCTG | GCAATTAGCA | GCTGCGGCAA | 60 |
| | GGCAGATAAA | GCTAACTGTG | GCATAGTTTC | CGTGAGTTTT | GATTTCGGTTT | CTCAAGCAGG | 120 |
| | AATAGTTTGC | TGGCCGCCAC | GGNCGCCGTT | TTTATACTGT | CAGGCCAGCC | CGCGGCCCTG | 180 |
| 20 | CGGGTAATGC | CTGGCAGACC | CGCTCTAGGG | CACGCCGAAT | CGCCCGTGAC | AACGCTTGCC | 240 |
| | GCCGCAAGAT | GAGCACCTAA | AGGGCCGGCA | GCCTCCGCTA | GACAACCTGA | TGGTAACGTC | 300 |
| | GTATTGTAAAT | ACTTAACTTA | TACAGGGTTT | ATTGATTATA | TTACTCAGAA | ACTGCCGTGA | 360 |
| | GACCCACAGC | CCGCCCCGCC | AATTGTGTAC | AGTAGGCCGC | AGCGGGCCGC | CCGCCGCTCT | 420 |
| | TAACGGTACT | TGTGGAAACC | AATGTCGTTG | GCCTTCTCTC | TGAAGCACTG | ACGGCAGATG | 480 |
| | TTCAAGCCGT | ACTTTCTGAT | CAAACCAGAG | TGCGAAGCCG | ACACGCGGCA | CTGGCGGGAG | 540 |
| 25 | CCCTTACCGT | AGTTTCTTGG | GTGGGAGAAC | CAAACGTTTT | CGTGAGCCAT | CTTGCTTGCA | 600 |
| | ATGCGTTAGT | ACTCTGTCTG | ACCGCTTGGA | AACGCTCCGG | CCCTCGTTGA | GCTGCCCA | 660 |
| | CGCTCGGCGT | CTGCGGCGTC | CTCATTTGCC | | | | |

1556RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAACCAG | TCGGCCGAGT | CCTATACGAC | CGGCATCAGC | CTGGTGTTCC | AACCTCTCGG | 60 |
| | TGACCCCTCCG | ACGTACCTGC | CTAAGGATAG | TTTGCCGCCA | GAACACCCTG | ATGAGGGCTT | 120 |
| | CACGAGTGCT | TCTGCGTCCG | AGCTGCAGCG | CCGCTTTGCA | TTCAAGTGTC | AAAATCCACG | 180 |
| | AGTCACCCTC | GTAAATGACT | TCACGGTAGA | CGTATACCCG | GCCTCAACCT | TCCAGCTGCT | 240 |
| 35 | CAATGATAAT | ATCTGCTTGT | GTTTTGATAT | TCTGAGAAGG | CAGAAGTGCT | GGCACACCGT | 300 |
| | CTTATACCTT | ATTTCCCAAC | TTTTGCTGCA | TCAAGGCCAG | GATTCTGCGG | TAGGAGACGC | 360 |
| | CCCAGCACCC | GCAGCCCAAC | CCCCGCTCCA | CCGCCGCCGA | TCAAGCAACA | AGGGCTGTCC | 420 |
| | CCGAGCAAGT | GCGGCCGAGT | CAGCCACGCT | AGGGGACGAA | AATATGCACC | AACCTACCTT | 480 |
| | AACGGAAATT | ATGAACAAGT | CTGTGATTCC | CGAAGATGAC | CGATGATGGA | TGACCGCATT | 540 |
| | GAGCTCTATG | TTAACGAGAA | CTACGCTAT | CTGGGGACCA | GGAGGGTTGC | AGCTTCTATA | 600 |
| 40 | ACGATCCGAT | TGAGAGGTGG | GAGGCGTTTG | TAGAGTCACT | AAGACAGATG | CTTACGTAGG | 660 |
| | TATATAATTG | TCATCTCACG | CCTGGTATGT | ATGCGCTTGT | | | |

1556UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGAATA | ACGTCCACAT | AAGGGAGAGA | CTAGAGGCTT | TGACTGCCCA | GCTAGCCAAC | 60 |
| | CCAGGGGGCC | AGCAGCCTCA | GCAGCAGCCT | CAACAGCAAC | AGATGCAACA | GCCTAGAGGG | 120 |
| | CCAGCACCCA | TTATGTTGCA | GCCAACATTG | CAGCAGCAAG | ACCAAAACAA | TCCGTGGAAT | 180 |
| | AACAAACCTG | CGTTCTACCG | GTCTCTCC | CACCGAGTTG | CGGTTGCCGG | AACAGAGTCC | 240 |
| | GCAGGCCACA | CACCAATGTC | AGGACGGCCT | CAGCCGTTGC | AGCAGTTGAA | CAATAACGGA | 300 |
| | AGTATCTCTG | AACCGTCATT | GTTGCCGCAA | AAGAGGCCTA | TGGAGGGTGG | AATGGATACA | 360 |
| 50 | TTGGTAAATG | CCATTTCCGA | GCAGGAGTTG | CAGCAACATC | AGAAGAAACA | TATGCCTTCT | 420 |
| | CAGAAACATC | CTAGTTTGGC | CCTGGCTACA | GGACAGCCGC | AGCAGTTACC | ACCCGATGCC | 480 |
| | GCTCCCATAA | TACCGCCCGA | AAAGAAAGGT | GCGCCTCTCC | CCCAGTTTCA | GAAGACTGAA | 540 |
| | CCAGAGCATG | CGGCAAAAAG | ACTGAAGCAC | GAGCAGAATA | ACGTTTAAAG | GCAACCGGTC | 600 |
| | CGGTCTCGAA | TATACCTTCG | ATTACGCACC | CAGCTTCCAT | GGAAACATTCT | GGTCCGGGAG | 660 |
| 55 | ATCAGAAATCA | CATTCTATCT | GGGCCTTCAG | TCCACGCAAC | CCACGTGTTA | CTCCGGTA | |

1557RP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCAGGCGA | GACATTGCGT | AGAAATATCA | ATTGGTTCCA | GAGGAGATCT | GTCTCCTGGT | 60 |
| | CATTGTAGAG | AAGCGGCCAG | ATATAATTGT | CCAAAGTGAA | CTCGTCTTTT | TGAGAAAACA | 120 |
| 5 | CGCTTTTCATA | CACAGCGTCC | GACTTTTGGG | CTAGACCATA | AGCAAGGTCT | ATAACTTCCG | 180 |
| | TGGCAGTATA | ATTCCAGACC | GGCGGTGGTT | GCGGCGGGAC | AAGGGACTCC | CAGTACCCAA | 240 |
| | GTAAATCCTT | CGTCATTGAG | CTTTTTTAAC | ACAGAGCCAA | CTAAGATCGA | CATGGTAAAC | 300 |
| | GACGCGATTA | MTTTTGTACC | ATTTTATAG | GAGACCAGAT | ACATTTACAG | AAGCACCAAC | 360 |
| | CGCAATCGTT | TTAATCGGTG | CAATCAGTGC | CATTCTTGCA | GCTGGGTCCA | AACTCTAGAT | 420 |
| | TTACAAACCC | CGCACGAATT | AGCTAGTGTT | GAACCAGCGA | ACATGTAAGG | AGTTTCATTT | 480 |
| 10 | CCCCACACTA | TTGAAAACCTA | CTGCGGTGAA | CGCAGGTGGG | GCCGCATTAA | CGCCATATAA | 540 |
| | CTGTGCGGTT | TGATAACAAT | TATCTCATAT | TGTCTTTTTT | ACGCACAAAT | ACATCCACTC | 600 |
| | ATAAGAGACA | TTACGCCAAT | GCAGTCAAAT | ATAACGGAGA | ATTTGCATAT | CAGTACGTGG | 660 |
| | AATCGCAGCA | GTTGCTGTGA | TTTTACTATT | GATAACGGGC | GCAGCATAAG | GGCTGTGTTT | 720 |

1557UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGCGGA | TTTGGGCACC | ACAGGGTAGT | GTGGCCGCAT | CAAAATGATGG | CACACACGCG | 60 |
| | ACGTGCGTAC | TCAGCCCCCT | TATTTGATTT | GAAGAACAGA | TTGATTAGGT | CTGATCCTAT | 120 |
| 20 | AGCTCTGGGC | AAAGCGGGGC | GCCTTGGCGC | CTGTGTGGCC | GCGAAGTATC | GCTTAGGAAA | 180 |
| | ATGCTGGTGA | ATGTATATTA | TACGCTGACG | GGAGCATTGC | AGTCAGGTGT | CATGTATGGA | 240 |
| | CTTGCCCTGCG | ATTAACTATC | GCAGCAGCCA | TCTGATGCTT | ATGCACATCA | ACTAGCACAG | 300 |
| | CAGCCATATG | ATGCTTATTC | ATACCGGGCG | CCTATCGCCA | TCTTCTTCAT | ATAAAGGCAG | 360 |
| | TGTTGTACAG | ATAGGTGCAT | TGTCCTCTGA | ATTCCAAAAG | CTCATCGCGA | GTGCAGATGA | 420 |
| | AAGATCTCGC | TTCTTTGGTC | CCGCCGCAGG | CGGCACCATC | GTGGAATTTT | AGTGCACAAG | 480 |
| 25 | ATGTTATTAG | TCTTAGCCAT | CAATTGATCA | ACCAAACCGA | GGCGGTTTAC | CACAACGTGT | 540 |
| | TACAAGAAAA | GCCACCAACA | ATTGACAATT | ATATCATGCC | TCTAATATAC | CATGAGGAGG | 600 |
| | AAACAGACCT | GCTATGGAAC | CAGTTGGTGT | TTCTCCGCAA | TGTTTCGCCC | GATCCGGAGA | 660 |
| | TTCGTGAAGC | GTCGAAGAAC | GCAACATCCA | TGCTGGACGA | CTGGATTATT | GGCCTTACGT | 720 |
| | CAAAGT | | | | | | |

1559RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCAGAAT | CCAAGTTGCG | TGTTCTGTAGC | AACCGCCGCC | TGCGCAGGTT | ACGAAGCAGG | 60 |
| | CTAAGGAAAA | GGGGCCTGGA | TGCCGAGCAC | ATCTCAGAAG | TAGTACAACG | CATAAAGGAG | 120 |
| 5 | AAAAGCAAGC | CAAGCGCTGA | AAACAAGACC | GTGCGTGAGC | GGACTCCCTC | ATCCGCTGCG | 180 |
| | GTGTCTGATC | CTAAGAAGCG | GGTAGTCTGAT | GTCCCAACA | ACCCGCCAAA | CAAAGTATTG | 240 |
| | CTCGTACAGG | ACCTGCCAAC | AGACATTACC | GAGCAAGAGC | TGGTGGATAT | ATTGCAAAAC | 300 |
| | GATAAGTTGC | TCCAGGTAAG | ACTAGTCCAA | GTCCGGCAAC | TGGCGTTTGT | AGACTACGCC | 360 |
| | GATGTACAGA | GCGCTACGGC | GGTCAAGAAC | AAACTGGGTA | CAAATTATGT | GATCAAAAAT | 420 |
| | CAACAACCA | TCATAGGGTA | TGCCAAGTAC | ATAGGGCCGT | GGGGATATGG | GTTCTTACCA | 480 |
| 10 | GTGGGTGGGA | ACCCGACAGA | TCATTTAGGT | AACTACATA | TGATAGTATT | TACMAGACTC | 540 |
| | CTTAAGTCCG | ACGTGCCTCG | ATGTCATTTT | CCAAAGAGGA | CTGTTCTCAT | AGCTGTGAGC | 600 |
| | AACGACTCTT | TGCTGCGTCC | TT | | | | |

1559UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 15 | GATCCGATGA | CCGTCTATGTT | CTTCTACAAG | AACAAGCACA | TGCGATGCGA | CTTCGGCWCG | 60 |
| | GGGGAACAAC | AACAAGATGA | ACTTCGTCTG | TGACAACAAG | CAGGAGATGA | TAGACATCAT | 120 |
| | AGAGACGGTC | TTCCGCGGGC | CCAGGAGAAA | CAAGGGGCTG | GTGGTGTCCG | CGTATGACTA | 180 |
| | CAACTACAAG | CGGATACAAT | AGAACATTTT | TTGCAGCTAG | TGTTGTCCCA | CGATAGAAAG | 240 |
| 20 | TTTATACGCA | ACCCGGCACA | GGCGCCGGGT | TGCTTGGCTC | CACAGCTGGC | GATCGAGCCT | 300 |
| | TGGGTAGGGC | CCTGCTGGCC | ATTATTCCTC | TGACTCGACC | TTACGCCTAT | AGATGGTGTG | 360 |
| | TGGGCTGTTT | TGGCGGTGAT | AGTGAAAATT | TTTTGGCTTT | ACGCTCCACC | GGGTTCAGGG | 420 |
| | CTAGGCAGCA | GGATAAGTAC | WTAGGTCTTT | CTGCTTCAGG | CATTATATAA | CCTCAAGCGA | 480 |
| | GCTTTTCAGA | CCTTTTAGGC | CAATATATCT | CCAAAGTGTG | GGCATCTGGA | CTATTAAGCA | 540 |
| | GGAGGTTCTA | TTCCAGCGTC | ATCAAGAAAT | CTGTCTAGAT | AAGAACCATG | GCCTCAGAGG | 600 |
| 25 | ATGTGCAACT | GGCCAGGAAG | GCTGTTGAGT | TTAACAGGGA | GAA | | |

1560RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| 30 | GATCGCGCGG | AGGTTCTGTA | AAAACCTTCC | ATGCACAAAC | CCCACACCAT | GCTCCCCGTC | 60 |
| | GTCTCTTTCA | AATCTCTTCG | CACATAATGGT | GCCGTCTGTC | ACGACTTTAT | CATTCCCGTC | 120 |
| | AAACACTAAG | TCAGGGATC | | | | | |

1560UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 35 | GATCCCTGAC | TTAGTGTGTTG | ACGGGAATGA | TAAAGTCGTG | GACGACGGCA | CCATTAGTGC | 60 |
| | GAAGGAGTTT | GAAGAGGACG | AGCGGGAGCA | TGGTGTGGGG | TTTGTGCATG | GAAGGTTTTT | 120 |
| | ACAGAACCCT | CGCGCGATC | | | | | |

1561RP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCCAAATA | AGCGTGCGGT | CCATACAAAT | GAACGGTTGA | GTGAAGCTAC | TTGCTCGGT | 60 |
| | CGCGTATGAT | TACTCGCACC | AGGCTCTGGA | TGACGCCGGG | GGAGATGGCG | CTGCTGCTAC | 120 |
| 5 | GGCAGCCAAT | ATATACATCT | TCTATAGGTC | TAATTTCATGT | CCGCTTTTTA | AAAAATGGCT | 180 |
| | TGGGTCAATT | TGTATGTAGT | AGGCTATGTA | ACGGCTCAGT | CGGTGGACTC | GGCGAAGCGT | 240 |
| | TCCTGGATGG | AAGCAAAGAG | CTTTTCGAAC | TCTGCGTGGA | CCTCGCGCTC | GCCGCGGCTG | 300 |
| | GGCTCGAAGA | ACTTGGAGGA | CGAAACGGCG | TGTTTCACGT | CGCCGGTTGC | CTCCGACAGC | 360 |
| | ACGGCCCCAGT | TGGCGCCGTT | GGACACGCTC | TTTTGTGCCT | CGTCGAAGTA | GGACACAAAC | 420 |
| | GCTTTTCATCA | TATCGTAGGT | CTTCCAGATG | GGGCAGAATG | CGTCGTAGGT | CGAGTAACCG | 480 |
| 10 | TTCTGCTGCA | AGAAGTCTTC | TTTGATTAGC | GTCGCGACAT | CCAGTACGAT | CTTGTCTTTG | 540 |
| | TCAGAGAGCG | CGGACTTACC | GACCAGCTGA | ACAACTTGCT | CCAATTCTCT | GGCGTTGGAG | 600 |
| | AGGATCTCCT | TGATACGGTC | TCTCAGGACT | GGGAACCGGG | GTAATTGCTA | TCATAGTATT | 660 |
| | TGTTTAGGAC | GTTGGTGTTT | CTTCGAGT | | | | |

1561UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCAGTC | TGTAGTTGCT | GGTACTGGAG | TCTTGACTGC | TCTATGCCTC | TTGCTTGTCG | 60 |
| | TAAAGCGAA | GGAGACTCGG | TTACTTGTAT | GTTTTGCTGA | CCTTCTGGTG | GCAAAAGGGG | 120 |
| | TGGGGCGCGG | GGTCGGACAC | TATTTTGGAG | CGGAATCAGC | CTGAGTGTTT | TTTTTGTTTT | 180 |
| 20 | CACCAAGGGC | GGGTAACCTG | GCGCCAGCCG | CTGGCCGGCG | AGGTGATGGG | CCATGAGCAC | 240 |
| | AGCAGGTATC | GCGGGAATAT | GGAGTGTCGG | GGGGCGCGCT | TATGTAGACC | CAGCACGGTC | 300 |
| | CCCAGCCATC | GCGCGGAATT | GCGGCTTTTG | TAGAGTCCCG | CTAGGCGCGC | TGCCGCGGGC | 360 |
| | GTCAGCGCCT | GTGACACAGA | CAAAATAAAT | TGGGCAAGCG | CGAGACACAA | GTCCCAACAAG | 420 |
| | CCGCCACTGC | ACGAAGCTAT | GCACGCATTC | AAGGAAGACT | TACCCCATAC | CGTGGGTTTT | 480 |
| | GCCCTCGACA | ATGAGGAGAT | CACATTCCCC | AACTACGTGC | CCACGCATGT | GCAATCGTTG | 540 |
| 25 | CCCCACACGT | CCAACGGGAT | CCGACAGCTA | GTCATAGATA | AGCAGAACCA | GCGCGTCTCT | 600 |
| | CCACATATA | ACCGCCTACT | CGACCGCATG | GAGGACGCGC | TCGTGCGCTG | GCGGCCGCCC | 660 |
| | GCCAGCTCCC | ACGTCGGCTC | CTCGCTAGCA | ATCCACGGCA | CGCACCCGTA | C | |

1562RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCATTTGA | GTGCAAAGGG | AGAAGTAGCG | CTTTTGACAG | TACGTGCGGT | GTGTGGACAT | 60 |
| | CCTAGGTACT | GTTGACATTC | ATGTGGGTCA | GTCAGATTAC | AAGTACACAA | AGTCGATATG | 120 |
| | ACAAGCCACG | TGACCATATA | TCCAAGACGC | CCCCCAGCGC | ACGCCTGCTC | TGTGCATAGG | 180 |
| | ACTGGCTACC | TACCAGTTAC | AATGGGGTTT | GCAACTTAAAC | TGCTCTAATC | CTCACACGCG | 240 |
| | GAGTTATATA | TGTGCTATAG | GGCATGCTCC | CGGGGCGCAA | TTCAAGGGCA | ACGGCCTGCC | 300 |
| 35 | ACCATGCCAG | AGCAGCCATA | CCAAGCGCTG | CAACAGGATG | CGATATCTCG | TTCTATATAT | 360 |
| | ATACAGATAT | ATATATATAC | TGTAACAAAA | TCCCTAGCGA | TCTCGCTGTG | AAAGGCCGGT | 420 |
| | ACTTAAATCA | TATCGTCGTC | TTCTTCAGCC | CCGATCGACA | AAGCCCGCCC | ATCGTTCCGG | 480 |
| | AAGCTTGGAA | GCTCGGGCGC | AGAAGAGCTC | AACTCGAGTG | CCGCGCATAT | AAAGCCGGTC | 540 |
| | ATGAAGAGCA | TTGTAAATGC | GCAAACTTGG | AAAAAGCCTG | CTGGCAAAAG | CATCACTGCC | 600 |
| | AGGAGGAGTT | GTAGGAGGGC | GCGACCCATG | TAACTATAGT | AGAAGGACGC | GTATTGTTGA | 660 |
| 40 | AGCAATGGTA | CTGGTCGGAA | TTCGAGGTAT | ACCAGCAGGA | CGGAGAGTGG | AAGGCCGAAA | 720 |

1562UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGCGT | GCAATATATA | CGTATCTGCG | CTCACGCGAC | CTGGTGCGGA | CTTCTTTAGC | 60 |
| | CGGCTACTAA | CTCTGTAGCT | GTTGGGGCTG | CCTGCGGCGC | CGCCGGGCGA | GCTTGGCAGA | 120 |
| | ATCCGCCGTT | GCGTCACGGC | CAGTGCCAGC | CGAACAGGAC | GCCCTTTTCT | AGCAGCAGCG | 180 |
| | CTTCCGCAGC | GGTTTCTTTT | TTTTCCAGC | TAAGGTCTGT | TATTTTCTCG | CAGAGGGTTA | 240 |
| | GAAAAGTACA | CTTTACATCT | GAACACACCA | CAAAAGTCGT | CTGATTGGAG | AGGCACGAAA | 300 |
| | CCAAACAATT | GAAAGGTATG | TTGAGTGGTA | AGCAGACGGT | ACACTGAGCT | GGCCGTCTTT | 360 |
| 50 | TAGCAGCTGG | TGCGCACCCG | CACTTTCTCT | TTTCCGCTC | TGTTGCTTCT | TGCGCGCCCC | 420 |
| | CTTGGCCTGG | ATCTCGAGAG | CCGCGGAGCT | ACCGCCCGTC | CCGCGCCAGC | CTGGGCTTCC | 480 |
| | CAGGCGGCCA | GTGTCAGAG | CCGGTCGCCC | ACGGCAGCCG | GCTTCATGGG | CGGCTGGCGG | 540 |
| | CTCTGTTTAC | AGGGATCGGT | CACGTGCCGT | GTGAGGCTAA | GCCGGTGCGG | AG | |

1563RP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCCTCGCT | ACITTTGACAA | CATCAGGAAG | GCGCTTGCTG | CAGGCTTTTT | CATGCAGGTA | 60 |
| | GCGAAGAAAC | GCTCGGGAGG | GAAGGGCTAC | ATTACTATCA | AAGACAACCA | AGACGTGCTC | 120 |
| 5 | ATCCACCCTA | GCACGGTCAT | TGGCCACGAT | GCAGAGTGGG | TAATCTACAA | TGAATTCGTG | 180 |
| | CTGACTACTC | AAAACCTACAT | ACGGACGATC | ACCTCCGTCC | GTCCTGAGTG | GTTGATTGAA | 240 |
| | CTCGCACCTG | CGTACTATGA | CCTTGATAAC | TTTCAAAAAG | GTGATATCAA | GCTCAGTCTG | 300 |
| | GAACGATTA | AACAAAAGAT | GGATCGCATC | GAAGAGCTAA | GTAAAGAGCA | ATCCAAGAG | 360 |
| | CATAGACAGA | GCCGCGCGTA | NTTCGTGAGC | TGTGTGTAGC | TAAATATCTC | TCTGATATAG | 420 |
| | CATGTACACA | ATAATAGGAC | TTTTGAGCTG | TCCCTCGTTA | CTTCGGATTA | GCAAAATTATC | 480 |
| 10 | GCAGAAGTTA | GCAGGCACCG | CCGCCCTTGT | TGGTGGCTT | GCACGAAAGC | AGCTGGTGAT | 540 |
| | GTTCCGGCTC | GCTAAAAACC | CTCATTTGTG | CCTATCATAT | GCCCAGCGCT | ACAGAGTCTT | 600 |
| | CGCATCATCA | TGTTTTGAGAA | GGACGAGATA | CTCCCACCTG | ATGAGGCCAG | GTCCCAAAAG | 660 |
| | ATAAAGGAGT | TCCTGAGCCT | CTCCCTCGGG | CTGATCACCG | AATCCATCGA | AAAGAAAGAA | 720 |
| | TATGACTCCA | TA | | | | | |

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1563UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCGGTGTG | CTTCCGACGC | TGGTACAGGG | CTGCGATGCG | CGTCTGCGGC | TGGCGGTGCA | 60 |
| | TATCGGAGAT | ATGGGCGCGT | GCCCCGTACGG | CAAAGAATCA | GCAAGACACT | AGCGTCTGGC | 120 |
| 20 | ATTCTTTTTT | AATGCATTAT | TTAGCTTTTT | TTTTTTTTTT | TTTTTTAGTA | TAGACACAAT | 180 |
| | ATAAAGTAGA | GTTCTGTCATC | AGTAGCGCTC | GTAAGGTTAG | GGGCCGGCTT | CACGCCATAG | 240 |
| | TAGCATCTCC | GTCAGACTCC | TGGATTGGCG | CTTGCTCTAT | GCCGGCGGAT | TCCGCAACTG | 300 |
| | CGTAGGGTCT | TTCTGTTAGCG | GACTGGTTC | CACCGGCGGC | ATGGGCAGGC | CACGAGGGAG | 360 |
| | CTCCGGTAGC | AGCCTGTGAC | TTGTCCTGGCA | GCGAGCGGCC | TGGTGGGTGC | TGGAAGAAGC | 420 |
| | AGTGGGCGTT | GCGACATTCC | GCGCCGAATT | TGCAGGGCTC | GTTGATGGGG | TGGCCGAAAA | 480 |
| | AGCAATCTAT | GCGCGTGCAC | GCAGCGCCCT | CGCGGCACAT | AATGTGTGAA | CGCGCATGCG | 540 |
| 25 | GGTACTTACA | CCGTTTGTTC | GTGCACTTGA | CGCCGAACCT | ACACTGCTCG | AGCGAACGCT | 600 |
| | CCGTGGGTGC | AAACGCACCG | GCTTGGAAAG | ACGTGGCGCA | GCAGCAATAG | GCTGAACATC | 660 |
| | TCGTATCTTG | GACAAGGAAG | ATGCGCCCTG | TGCGAGTCCT | CTTGTCACAG | GTTAGGT | |

1565RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCACATGT | TTTCCCCAGA | GAGGGACCTG | GCGTTGAGAG | AGCGATGGGC | CGTTATACCA | 60 |
| | CTGAGCCCTA | TTAGTTGCTG | GATTTGTGTT | TCCAGCAGCT | GCGCATGGGG | CCGGATTCCG | 120 |
| | TCAAGTGTGA | TTCCGCAGAT | GTTGGTTTTG | GCTCGATAAG | TGCATAAGGA | AGCTGCTCTG | 180 |
| | TTAGTACATG | TCACATAGGA | GGCTTCCGCA | TTGGCGCATG | GCATCCAGTG | GCGGGCTTGT | 240 |
| 35 | GGCGCGACGG | GTATTCCAGT | AGCCGCTCTGC | GAACCGTATT | CAATCATCTT | TGGCCACGCG | 300 |
| | GTATATAAAG | CGGCTGATGA | GCCTGGATGC | AATGGGGTGT | AGCTGCGGAG | ACTGCAACCGA | 360 |
| | AGATGTCTAG | CAAAGTTTCA | TTCTATTGA | ATTGGCAGCC | TGCGCCATAC | CACATTGCGA | 420 |
| | TTTTTCTAGC | CCAGTCCAAG | GGCTACTTTC | AGCAGGAGGG | TGTGGACATT | GCGCTGCTCG | 480 |
| | AGCCACAGAA | CCCGTCCGAC | GTGACGGAGT | TGATCGGTGC | GGGCAAGGTT | GACATGGGCC | 540 |
| | TAAAGGCGAT | GATCCATACG | CTGGCCGCTA | AGGCACGTGG | TTTCCCGGTC | ACTTCTGTG | 600 |
| 40 | CATCGCTGCT | GGATGAGCCG | TTACCCGGGG | TTCTGTACCT | GCGTGGCAAC | GGAGTCACAG | 660 |
| | ATACTTTCAG | CTCTCTTCAG | GGGAAGCG | | | | |

1565UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCCTTTC | ATACAGGTCA | ATATTTTTATG | CAGAGACAGG | GGCTGGACGT | TGTAAAGGTC | 60 |
| | TTTCATCCAG | ATATGCTAAG | AGGCGAAATT | TCATGCACGA | GTATGATCAC | AAAAAATGAC | 120 |
| | ACAGCCAAAC | AAATTGCCAT | TATTTTTAGA | GGATCTACAG | TGATACAGGA | TTGGATTATC | 180 |
| | GATGTTCTAT | CCACCCCTAT | TCCATTCAAT | CTCGCTCCTA | CCCCCTATCA | GCCCGTCAGT | 240 |
| | GGAGCTGCAA | AGTGCCAGG | GAACGTCTCT | ACGCACACTG | GCGTCTACGA | TCAATTTAAA | 300 |
| 50 | AAAGCATTTA | AGGATATTTA | TGCTGTTTTT | AAGCCGCTAA | AAGACACACA | TCCGGATTAT | 360 |
| | GAGGTGATAG | TACTGGTCT | TTCTTTAAGT | GCGGCTATG | CTCACTTTAT | GGGTATTGAA | 420 |
| | TTGCAACTTC | TGGGCTACAA | GCCTCATGTT | TGCGCCTTTG | GATCATTGCG | TATAGGCMAT | 480 |
| | AAGGACTTTA | AGGATTGGGT | GGATGATATA | TTCCGCTCGG | AAGACGTTTC | GAGAAGAATC | 540 |
| | CCAAATAATG | AGATGCCC | | | | | |

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1566RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCGCGAAA | CACAACGCGC | GCGGCGCGGT | AGCGCGCGCG | GCGCTGCTGC | AGGACGTGCG | 60 |
| | CGACCGCGCTC | GCGGCGCACT | ACGGGGTAGG | AGTACATCAA | CCGGTACGTG | GAGGACGAGT | 120 |
| 5 | GGGTGTTCAA | CAACGCGGGC | GGCGCTATGG | GGCAGATGCT | GATTCTGCAC | GCGTCTGTGA | 180 |
| | GCGAGTACCT | GATTCTGTTC | GGCACGGCCG | TGGGCACGGA | GGGCCACACG | GGCGTGCAC | 240 |
| | TTGCGGATGA | CTACTTCACG | ATCCTGCACG | GGGAGCAGAG | CGCGGCACTG | CCACACGCGC | 300 |
| | TGGAGCCGGA | GGTGACACG | CCGGGTATGA | CGCATCACCT | GCGCATGGGC | CACGCGAAGC | 360 |
| | AGTACGCGAT | GCGTTCGGGC | TCTTTTGCGC | TGGAGCTGGC | ACAGGGGTGG | ATCCCCGTGA | 420 |
| | TGCTGCCGTT | CGGTTTTCTG | GACACGTTCA | ACAGCACACT | CGACGTGTAC | ACTCTGGCGC | 480 |
| 10 | GCACCGTGCA | GCTGACAGCG | CGCGACATGT | TCAAGAACTT | GGTGTACAAT | TTCAAGTTTT | 540 |
| | AGCCTAGATA | CATAACCACC | ACCAATGTCT | GCGCAGGCCT | CGCCCCGCGAC | AGAGCTGCCA | 600 |
| | GAACCCGACG | CTCGGGCAGG | TGTACGCCAC | GCTGACGCGC | CACTC | | |

1566UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCCTCAAG | TCTACGAACG | CCTCGAAGGT | GTTTACGACG | GCCGTTTTGG | CTGATGTCAT | 60 |
| | CACAGCTGAG | GCTAAGGGTG | ATTTTGACGC | GAAGTCTGCT | GTCCCAGGTC | ACGTGCAACA | 120 |
| | GGGCGGCCCTA | CCATCGCCAA | TCGACAGAAC | CAGAGGAAC | CGTCTCGCGG | TCCGTGCGAT | 180 |
| | CGGCTTCATC | GAGGCTAAGC | AGGACGTGAT | TCGCGAAGCC | AGGGGAAAAT | GAGGAGGCCT | 240 |
| 20 | TTGACTGCGC | CGACAAGGCC | GTCTCTCACA | CCGCCGCCGT | CCTCGGCATC | ACCGGCTCCC | 300 |
| | AACTGAAGTT | CACCTCCATC | AGGCAACTCT | ACGACCTGGA | AACAGAGTTC | TCCAAGCGTA | 360 |
| | TGCCAAAGGT | TATCCACTGG | GAGCCTACCC | GCGCGATTGC | GGACCATTTA | GAAGGCCGCA | 420 |
| | AGAGGGTAAC | AGTTTAGTGT | CTCTGTTTTG | CCCGCTGCCC | CACTATATGT | ACCACTAGAT | 480 |
| | ACCACGATTA | TGGATAAACT | TAACATGGCA | GAGTACACTC | TCATCCACCT | GCCATGTATA | 540 |
| | TAATGTGATT | TTACTGACGA | AAACTGTTTT | AAACGCCGTT | GCAGGGTCCG | TCGCAGCTCG | 600 |
| 25 | TATAAATATC | TTGACGCCAC | CTCGATCTCC | ATTGGTGAGG | AAGTACCCGT | CGAGATACAA | 660 |
| | TAGTGCCAGC | TTGCTAAGGG | GTAAGCTGAC | CACTCTACAC | A | | |

1568RP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCAGCAAA | CGGTGCGTAT | TAGGTTCCCA | TGCAAAGCGC | ATGCAGCGGT | CCTTAATCTC | 60 |
| | CACCTTCTCA | AATGGAAACT | CTCTGGCAGT | CAAAGAGCAA | ATCTCCATGT | TGGTGAAGAT | 120 |
| 5 | GGTCTTCCCTA | GACTTCGTGT | GACGGTCCAC | CTGTACACAG | AGGAACTCTG | CCTGGTTCCTG | 180 |
| | CCAATGGAAG | GAGACATCAG | TAACCTGCAC | CAAGTTGATG | GTACGCAGAA | CACGGCCGGTT | 240 |
| | CGGTAGCTCA | ATCAGGACAG | CTTTACACGA | CTGGTTGTTT | GACTCTGGAG | TCCAGTATAC | 300 |
| | CATGACAGTA | GATGGTGGGT | CGTTGGGTCT | GTTTGACGCC | AACTTGATGC | CCTTAGGAGC | 360 |
| | AAAGGAGAAG | TCCTGAACAT | CCTCGATCTT | CATCACCTTA | CCGCCCAACA | GCTGGAAGTT | 420 |
| | CTTCTCGGTC | TCGTACACAG | CAATTGCGCC | AGGGCCAAGA | CGAGCGCAGA | ACTTGTCTGC | 480 |
| 10 | AAAGGACCAC | TTGACCATAG | GCCATTGCAG | CTGCTGCTGA | GGCGGCAGCG | CAAAGGTCTT | 540 |
| | CACGCAGACA | CCTGTTGCCA | CATCCCATAT | ACATAGCTGG | TGGCCCCGCG | ACTCGGGCCC | 600 |
| | GAATGGACAA | GCCTCGTTAG | GTTTCATCCGA | GACTTCTAGA | GGTTCCGACG | AAAAGGTAAC | 660 |
| | CAGGTACTTC | TCGGTTCGAG | ACATGGAGAT | CGCCTT | | | |

1568UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCATCTAC | GTGGCCCATG | AGGATAATAA | GGAGAAAGAA | TTGGAATTTG | AGCTGAGCTG | 60 |
| | GTGCTCCGCT | TCGGAGACGG | ATGGCTTGCA | GAAGGGAGGT | ACCAAAAGAG | CTATTTGATG | 120 |
| | CAGCGATTGA | GTTTGCGAAG | AAGGAGACCG | GTCAGGAGAG | TGATGATGAT | TCAAGCGATG | 180 |
| 20 | ACAACGCATC | TGGAGGTGAA | GAGTCTCAA | CAAAGAAGGA | TGCTGACGGT | GATGTCCAGC | 240 |
| | TTTTCATGATA | ACAGCCCGCG | ATTATGTGGA | GTTTCATTTC | ATGACAATTG | ACGGATGTTA | 300 |
| | CTAAGTGTAT | ATTAAAGTTAA | TCCACCTATA | TAAATTAATA | ACATGCAAAG | CAATTTAGAA | 360 |
| | TTTGTTCGGAA | AGCAGGTTAA | AGCATGTCTA | CTCTCCTTAA | TCTTTCGCGA | AGCTGTACAT | 420 |
| | TTTCTTCTTC | AAGTGAACGA | ATTCTATCCA | CGGCTGCGTC | TGATTCTAAT | TTCTTACGTT | 480 |
| | CGCGTTCTGT | GTACCATTTT | CGCGTCAGCT | CTTCTATCAT | TAATTTTGAA | TGCTGATCAA | 540 |
| | ATGTATCTGA | TTCATCCGAG | CCCTGCGACA | CCTGGGATAG | ACGTTTGTAT | CTTCTGTCTT | 600 |
| 25 | TTTCCTTTTAA | CAGCAGCTTT | ACATGTTCTT | CCACTATTGA | TGATGTGGCA | TTTTGGGATG | 660 |
| | AACATATAAA | TAGAATCCCA | TTTCAGCTGG | TTTCTTC | | | |

1569RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| 30 | GATCCGATAT | ACGCTGAGTG | CTATATTACA | AACCATCAAT | TTGATGTTAT | CTTGGACGTA | 60 |
| | TTGTTGGTTA | ACCAGACGAA | AGAACTTTG | AAAAACTTGC | ATGCGCAGTT | TGCAACCCCTG | 120 |
| | GGCGACCTGA | AGATTATATG | CAACCCCTCA | AGCACCAATC | TAGTTCTCTA | TGGTTTCCAC | 180 |
| | AGATTTAGCG | TTACAGTGAA | GGTTTCAAGT | GCCGATCTG | GTATAATCTT | TGGGAATATA | 240 |
| | GTTTATGACG | GTGGACACGG | CGAAGATGCA | CGCTATGTGA | TCTTAAATGA | TGTCCATGTT | 300 |
| | GCTACAATGG | ACTACATTAA | GCCTGCAGTT | TGTGATGAAG | CTTCTTTCCG | CAAGATGTGG | 360 |
| 35 | AATGCATTTG | AATGGGAGAA | CAAAATCGTT | GTCAAATCTA | AGCTACCGAC | TCTGTCATGAC | 420 |
| | TACTTGAATA | AGCTGATTGA | GGTCACCCAT | ATGAATGTCC | TGACTCCTGA | AGAATCATTT | 480 |
| | GCCGACCCCG | AATGTCTGTT | CTTAAGCTGC | AACTTATACT | CGAAGTCCAC | CTTCGGCGAG | 540 |
| | GATGCTCTGG | CTAATTTGTG | TATCGAGAGA | GACCCTACTA | GTGGTTCCAT | CATCGGAGAA | 600 |
| | GTTCGCATCC | GCTCGAAGAC | GCAGGGCCTT | GCTTTGACCC | ACGGAGACAG | TATTCGCGMC | 660 |
| 40 | ATGGAAAGGT | CC | | | | | |

1569UP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| 45 | GATCTGCAAT | GCTCTTCAAC | AATTTGCTGC | AAGCTATTCT | CCTGATGACC | TTGCCATCTT | 60 |
| | GAGTGAGCTT | TTTGATTCCA | ACAGCAAAATC | TGAATAGGCC | TCTATCTCCT | TTAAAAGCAG | 120 |
| | CGTCGTGCAT | GGGGCTTTGG | GTTTACATTG | GAAAAAGCCC | CAAAGAACAA | GGTAATGCAT | 180 |
| | GCCAAAAGTA | GCCTTTAATC | CACTTACATC | TTAGATATTG | TTACGCAGTG | TATCTATACA | 240 |
| | AAAAATAACG | ACAAATAATA | TCTTTTAGAG | CTGGTTCTTT | AGACTAAAAT | AGGGCTCGGT | 300 |
| | ATGCAATACC | TCAGATGCTA | TCTTGATATC | CGTGTGGATA | TCCTCGATT | AAGCCTCTTT | 360 |
| | CGTGGTGTAG | TTTAATTCCG | GCCGGATGTA | GCCAAGGAAG | CTGAACTTAA | TTTTGGCGCC | 420 |
| | ATAGAAGTCT | TCTTCAAAGT | CGTTTAAAT | GTGCAACTCA | ACCGTCTTCT | TACTGTTGTT | 480 |
| 50 | ATAGAACGGG | TTCCATCCTA | CCGATAACAC | GATTGGAAAG | ACTCCACGCT | CTGTTTCCGA | 540 |
| | CAGCTTGGAG | CCAAAGTTGT | ATATGACCTC | GCTCCCATCA | TTTCTGTGAT | GGGACCTGCG | 600 |
| | CTTCTTGGTC | CATA TTAGCC | TTAACCGGGC | CCAGCCAAAA | TATACTCCTG | TGGCCATTTT | 660 |
| | GTTAACTTCC | CTAGGCAATT | GTTCTATTGG | GAACATTC | | | |

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1570RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCCACAAC | ACACACAGCT | TGCGGACTCT | TTTTCTCAAA | GACAGTTCAC | CAGTCCAACA | 60 |
| | CTTGCAAAAC | CATCTGCTAA | CGTTTCAAAG | ATTGCGCAGC | AGCAAACCCA | GCCAAACCGT | 120 |
| 5 | CTCTCTCAAT | CTCATCCTCA | GCAACAACAA | GGTTTACAAG | CTCAGCAGCA | GCTACTTTCAA | 180 |
| | CAACAACAAG | GTTTCAAGC | TCAGCAGCAG | CTACTTCAAC | AACAACAACA | GCAACCACCA | 240 |
| | CCACCACCAC | CACAACCACA | GCAACAAACA | CAACAACCAC | AACAACCACA | ACAGCAGCAG | 300 |
| | CAGCCCCAAC | CTCAACCGCA | ACTACAACAA | CAACAACAGC | TTGGTTTACA | GCCTCATCAG | 360 |
| | CCACAACCTGG | CGCAGGCGCA | GGCGCAACAA | CCACAACCGC | AGCAGCAGAC | GCAGCAGCAG | 420 |
| | ACGCAGCAGC | AGCAGCAGCA | GCAGCAGCAG | CAGCAGCAGC | AGCAGACACA | GCAGCAGACA | 480 |
| 10 | CAACACCAAC | CACAACCACA | ATTGAAACCA | CAATCAGCAG | AACCACAACC | GGTTCCACAG | 540 |
| | CAAGTCCAGT | CTCAACAACC | ACAGCAAGTC | CAGTCTCAAC | AACAACCACA | GCCTCAGCAA | 600 |
| | CTTTACAGC | CTGCCCAACA | ACAATCGCAA | CAACAACAGC | AGCAGCAGCA | GCAGTCTCAG | 660 |
| | CAGCAGAAGC | TTCGCCAAGT | GCAGCTGC | | | | |

1570UP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTCGGG | CCCGCGGGGC | CGCTGGGCTA | CGTGCTGACG | CTGTATGCGA | ACGCGCAGTT | 60 |
| | CTTCACAACC | ATGATCGTGA | ACTCGCACCT | GGCGACGCCG | CTGTTGGACT | ACACCATTCG | 120 |
| | GTCGCTGATG | GGTATCCATA | TTGAGTACAA | GCGCCATAAC | CCTGAATTGG | TGGAGCCGGA | 180 |
| | GGCGTTTACG | GCATACGATG | TGCTGACGGT | GCTGCGCCTG | GTCAATGAGCG | TTGCCGTTAT | 240 |
| 20 | GGTGGTTCTG | GTGACCATCC | CGATTCTGGG | ACCTGTTCTA | CTGATGTTTG | TGATGAATGT | 300 |
| | AAAGTTTTTCA | TACGACTTCT | ACGAGCGGTT | CTTAATTCTA | CGGGGACTAA | ACCAGGTGCA | 360 |
| | GCGCCGTGAC | GTGTTCTACC | AGCATATCTT | ACAGTTTGCA | TACTTCGGGG | GGTCGTACAC | 420 |
| | GGTTTTAAAT | TTCTGCTCTC | TATCTCTCAGT | CTGGGGCTTT | GTGTGCTATC | CGTTGGCAAT | 480 |
| | CAAAATGTGG | GCGACTTCCA | ACATCATCCA | CTTTACAGCG | GAAGAAGTGG | AGTCCATCAC | 540 |
| | TGAATGAAAT | CATTCAATTA | ACATGTCCAT | CTATACATAA | AGATAGATAT | AGCCAGAATC | 600 |
| 25 | AATACCTGTC | CCATTAGTAA | AGTACCATGC | TGTCGACACA | GCCGAATCCC | GCGCAACACC | 660 |
| | GCCCTCGTTG | GACGAAGGCA | ACTTGGAAAG | CAGCAGCCAT | CCCAGCGTAG | TCGT | |

1571RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | CGCAGGCCGT | AGGCAACACC | GTTGGATATC | TGCACCTGGC | AAAGGTCTTG | ACCCGGCAGC | 60 |
| | AGAAGCTCGC | GCGAACCGGT | AGTCCACGCA | TACAAGTCGC | CGCGGCGGTC | GATTGCCAAG | 120 |
| | TTGCAACCGT | CCTCTGCCAG | CGCCACATCC | CGCAGCCGCT | CGCCCTCAAA | CCCCGGCACC | 180 |
| | CGCAACGGGA | ACCGCGTGGA | GCCAGCGTCC | TGCGCCAGCC | GCGCGCCCCA | GTAGTAGAGC | 240 |
| | CCGGGCTCTC | CTGGCTGCGG | CGCCGTCAAC | GGGATCTCGG | GGATCCCGCG | CAGCTCTTTC | 300 |
| | TTGCGCTTGA | CTCTCTTCAG | CCGCTCAAGC | GTGTTGTCTG | CCACCCGCGG | GTGCGCGCGT | 360 |
| 35 | AGAATCCAGT | CCTTGATCTG | CGGCCATTGA | AGATACACCG | TGCCCTGCTAC | TCCGATCCCG | 420 |
| | ACGACCACCG | CCAGGCCCTG | GAACACCGCC | ATCAGCTTCT | GCATCTTCTC | CACCTTGCTC | 480 |
| | GCATACTCCT | GCTCCAGTTG | GCGCGGCGAT | TTGTCACTCC | ACTGGTAGTC | CAGCTTGCTG | 540 |
| | CGCTTGCCCT | TGTATGTGCC | ATGGTTTCAGC | TGCTCTTGCC | ATCATCTCGG | GCTCATCAAA | 600 |
| | ACGCTGCCCC | TTGCGCAACG | CCCTTGCTTC | CATAGCGAGC | GCCTCGCCAC | TGCGAGCC | |

1571UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCACGTGA | TGGGATGAAA | ACTCTGACAA | ATGCACCGGG | AATATATAAG | GCATGGAGCT | 60 |
| | GCGGACTCGG | CCAGACAGTG | CGAGCAGCGA | AACAACAACA | TCATCCAAAA | TGGCCAGAAG | 120 |
| 45 | ACCAGCTAGA | TGCTACCGTT | ACCAGAAGAA | CAAGCCTTAC | CCAAAGTCTA | GGTACAACAG | 180 |
| | AGCTGTGCCA | GACTCCAAGA | TCAGAATCTA | CGACTTGGGT | AAGAAGAAGG | CCACCGTTGA | 240 |
| | TGAGTTCCCT | CTATGTGTGC | ACCTAGTGTC | CAACGAGTTG | GAGCAGTTGT | CCTCCGAGGC | 300 |
| | TTTGGAAGCC | GCCCCTATCT | GTGCCAACAA | GTACATCACC | AAGATGACCG | GTAAGACTC | 360 |
| | GTTCCACTTG | AGAGTCAGAG | TGCACCCATT | CCACGTCTTG | AGAATCAACA | AGATGTTGTC | 420 |
| | GTGTGCAGGT | GCAGACAGAC | TGCAGCAGGG | TATGAGAGGT | GCCTGGGGTA | AGCCTCACGG | 480 |
| 50 | TTTGGCTGCC | CGTGTGACAC | TGCGCCAGAT | CATCTTCTCC | GTGAGAACCA | AGGACAACAA | 540 |
| | CAAGGACATC | CTTGTTGAGG | CTTTGAGAAG | ACCAGATACA | AGTTCCAGG | TCAGCAGAAG | 600 |
| | ATCATCATGT | CCAAGAAGTG | GGGTTTCACC | AACCTGGACC | GTGCCGAGTA | CGTCAGA | |

1572RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTATTAT | TAGAGGTAAT | ACATTTAAAC | TATTATCTAA | ATTCTTCTTC | TTCTTATTTA | 60 |
| | TTCTTAAGCTT | TATCTTATTA | GGTAAATTAG | GTGAATGTCA | TGTTGAAGTA | CCATTTATTT | 120 |
| 5 | TAATAGGTCA | AATTTGTACA | TTTATTTAT | TTGCTTATTT | CTTAATCTTA | GTACCTATTA | 180 |
| | TTTCTATAAT | TGAAAATATT | TTATTTTATT | TACTAAATAA | AAAAATAATA | TTAAATAAAT | 240 |
| | AATAATAATA | TTCAATTAAT | ACTTTAATAT | TAATATTTAT | ATATTATACT | TCTTTATCAT | 300 |
| | TTAGGAGGGT | ACCTCATATT | GCTGACTAAC | AATAGGGGGG | TGAACCCCTAC | GCACCTAAAT | 360 |
| | GATAAGAGTT | TATCATTAAA | TTATACTACTA | TATATTATAA | GTAATTTATC | AAACCATATA | 420 |
| | TAAGGTATAT | ATATTAAGAA | AGTTTGACTG | AGTGGTTTAA | AGTGTAAATAT | TTGAGCTATT | 480 |
| 10 | ATAAATCTTT | ATGATTTTCT | AGGTTTGAAT | CCTATAACTT | TCGTATTAAA | TAATTATTTA | 540 |
| | AAATAATTAA | AAATAGTTAA | TAATAATGAG | AACATGATGT | TGGTTCAGAT | TAAGCGCTAA | 600 |
| | CTAAGGGACA | TTACACATGC | CAATC | | | | |

1572UP

| | | | | | | | |
|----|-------------|-------------|-------------|-------------|------------|------------|-----|
| 15 | GATCCGTGTA | TTTTTTTATTT | ACATTATTTA | ATTAAAAATA | ATGATTTAAA | TAAATATTTT | 60 |
| | TTATAAAAAA | TAATTAGTGC | ATTGTTACAT | GTTCATTAAA | GAATGATTAT | TATCAAAACC | 120 |
| | ATCAACTAAT | TGTTATATAT | TTATTAAATA | TTAATTTTCRC | TTAATTAAGA | ATTAGGAACT | 180 |
| | TTATCTATTA | GTCTGGGCTG | TTTCCCTTTT | GATTATTAAAC | CTTATCGCTA | ATAATCTGAA | 240 |
| | ATATTTAATT | TTAGATTAAT | AATATATTCT | GAGATTTAAT | ATTTTAAATA | AAATAAATAA | 300 |
| 20 | TTATTCCTTA | AATAATATTA | ATAACTATAC | CATATATATC | TAATATTTAA | ATAATCATAC | 360 |
| | TAACATATGT | TTCGTAGAAA | ACCAGCTATT | TGCAAAATCAG | ATTTGACTTT | CTCTACTTAC | 420 |
| | CATTATTTCAT | CAGATAATAT | TGCTACATTA | ACCTGTTCAA | TCGTTTTTAT | ATTTTATTAT | 480 |
| | ATTTTAAATA | TAATAAATAT | ATATTTTAAAT | CATTGATAA | TAGTAAGATC | ATCTGCTTTC | 540 |
| | GGGTTAATTA | ATATTAACATA | AATTTAATTT | ATTTTAATTA | ATTTTAACAT | TGTTAAATAT | 600 |
| 25 | TTATATTATT | TTTAATATCA | TTTTTTTATTT | TAATATTATG | CTAATATTAA | TTACTTGCTG | 660 |
| | ACCCATTATA | CAAAAGG | | | | | |

1573RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| 30 | GATCCGTATG | GAAATTATTT | TTTTATTTGA | ATTATCTTTC | TCCAGAACAT | CCAAGAAGAG | 60 |
| | TGTCAGAGTG | GTGGGCAGAT | ATGGCTTAAA | CTCTCCTTCC | AAAGATTTAG | AAATAGATTTC | 120 |
| | GATAACAGAA | ATGATTGTAA | TTTGCAGTTT | AATAAATGGG | AAGAACTCTT | TAATGACTTC | 180 |
| | AAATATTTTC | TCAACATATG | GCCTGATATG | TTGCTTCACA | ATTGATACCA | TAACACCTAA | 240 |
| | TTGTTGAAAA | TAAAACCTCAA | GTATTGATGG | AGGACAGCTA | CGCATCACAT | TAATCATTCC | 300 |
| | TGGAATAATT | TGCTTTAGGA | AGGAGACGCA | GCGGAGTCCC | AATGTTTGGA | AGATGTGCAT | 360 |
| 35 | CACTGCCTGT | ATGACAGCAG | TGTGATGAGA | AGATAAAGAA | GGATCCTTCA | AAATTTTCAT | 420 |
| | TAGAGTATTG | ATCACGACGG | TTGGATAATA | TTCTTCATTG | GAGGGTGACA | TACCTTGCTAT | 480 |
| | TAACAAAGCA | ACATCTATGG | ATGGGGCATT | TTGTTGACG | GATATAGGCG | TGCTGGATGT | 540 |
| | TCTTTCAACT | TCTCTATGTT | TATAAGGGTC | CAGAGCTCCC | AGAATCCCTA | TTAGTCTAAC | 600 |
| | TGTTTCCCTC | CTTATGCCTT | GGG | | | | |

1573UP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|-------------|-----|
| 40 | GATCSGATAG | GACAGCGAGT | ACGACGGCCC | CTGTGCCGCT | GCCAGCGCCT | CGTTGCCAAT | 60 |
| | GTAAAAGTCG | AGGTCCCTCCG | TCCCGCGCTT | CCCAGCCAGG | TTGTTGACCA | TCAAAGAAGA | 120 |
| | TGACGTAAAG | CCCGTGAACG | ACGTGCGCGA | CGTCGTGTTG | CCAAAGAATG | CAGACCCGCC | 180 |
| 45 | AGCGCCCAT | CCGCTCCCGC | TCTGGCCCAT | ACCGCTCATA | CTGCTACTCT | TGGCCGCTCT | 240 |
| | GGAAGGCTGC | GCAGTCGCAA | TTGCCGTTGG | GAACACCCAT | GAGGGCGAGT | CGTTACCTGC | 300 |
| | AAATCCCAAT | TTGGTCAATC | CTGTACCATT | GTCCATGACA | ACAGCAGGAT | TATTGAGGTA | 360 |
| | TGACATGCTG | TATTCTTGGT | CTCAAATGCT | TCTGGTAGAC | TTGTGTGAGC | CTTTGGCTTC | 420 |
| | GGATGGCTTG | TCACTTACTG | GCTTAAGAGT | GCTGGCAGTG | GAAAAGGGGT | CTAATGCGCC | 480 |
| | TTTCGTTTTA | GGTGATCACC | ATCACCAACC | ACGGTACACC | TGACGAAAGG | CAACGCCGCTG | 540 |
| 50 | GCTTGTTGAAG | CCAGGAGAGC | CCTCGTAGGT | ATTCCGCGGA | GCCAATTGGT | GGCCCTCTCG | 600 |
| | GTTCTCTGAG | CGCTCCTGCT | CCATCTGCCC | TCTTGACTCG | TTTATGAACC | TTGAAACACG | 660 |
| | GCATATAGCG | ACACGGACTT | TCTGCAGGTC | TGTAGAGTAG | CCCACATCCG | GCGAA | |

1574RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCCGAAG | CTGGTCTGTT | TCGAATTCGG | GATATTTTFA | GGAAGTACGT | TTGTTCCAAC | 60 |
| | GACGTTGCTT | CCATGCATCT | TGCGGGGTTG | TTGACGCCAAC | ATTTTCAGTC | TCACATTCCC | 120 |
| 5 | TGAACAGCTT | TGCTATCTAC | TAGGAGTTAC | TGAAGCTTTT | AATGTCTGTT | AATAAATCTT | 180 |
| | TTGAGTTAGA | TAATTCGCTG | CGCTACAGTC | TCCATGGGTT | TTTATTGGCC | AACCCATCTG | 240 |
| | TAACTCTAAT | TGAAAGGGAG | AAGATCCTAT | ACAGGAAAT | AACAAAGGAG | TCTGTGGCAC | 300 |
| | TAGTTTCGGG | TGGGGGGTGC | GGACATGAGC | CTGCCGACAG | CGGGTATGTT | GGGGAGGGCA | 360 |
| | TGTTAACCGC | GGCTGTGCA | GGAGACATTT | TTGCGTCGCC | GTCGACGGCT | CAGATTTTGA | 420 |
| | CTGCAATAAG | GATTGCTACA | AAGCAAGCAG | CTGGAGCATT | GCTGATCGTG | AAGAACTATA | 480 |
| 10 | CTGGCGACGT | TCTTCACTTT | GGCCTGGCAA | CTGAGCGTGC | TGGGTCTATG | GGCATTGATT | 540 |
| | GCCGCGTGGT | TATTGTTGGT | GATGACGTAC | TGTTGGTCCT | ACCAAGGGTG | CAGGAATTGG | 600 |
| | AC | | | | | | |

1574UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAAAAGC | GTGAAGCTGG | AGCGTAATGA | GGAGCAGCCA | GTGTTTTCGA | TGGACTGGGA | 60 |
| | CCAGCTGTAC | GACGTGTCTT | CGAACATAAT | GGAAGAATTT | ACAAAGGAAA | TGGACGAAAT | 120 |
| | AGTGGCAGAG | CTCAACCACT | CGTTCAAGGT | ATGTAGCACG | ATGAACACGC | AGGGCGGGCG | 180 |
| | GGTTACTAAC | GCGATGGGTG | CAGAAGCAAT | TGCTTTGGCA | GGAGGCGGCG | TTTACCGTCG | 240 |
| | ACTCGCACAG | AGGCGCCACC | CGGTTCGGCG | CTGCCGAAAG | CTGGATGAAG | AGCAAAGAGA | 300 |
| 20 | CGCACCTGGA | ACAGAAGCGG | CGGTAGCTCA | ATGCATCGGC | CGGCATCATC | AAGAGCACGC | 360 |
| | TCGAAAATTT | GACGCAGGGA | TAGTCCGGC | CGGCATCCGT | CATGCAATGC | CTTGCTCAAC | 420 |
| | ATTACATGGA | TGGGTATTTT | TGCCTATGTA | CAACATAAT | TTACGCGAAT | TTAGCTTTCT | 480 |
| | TCCAAGGCCT | GTCTTCGGTG | TCTGCGCCAT | CGGCGGCTTC | AGTTTCACTC | TCCGAGACAC | 540 |
| | CGGCGTCTGA | GTCAAACCTC | TCCGCGACGT | CATCGTCTTC | CGACTCCGCC | TGGAAATCCT | 600 |
| | CGTCCACAGA | CTCATCGTCC | TCTGCAGCAG | AACCATGTTA | ACGTCTCAT | CTCGCTGTCA | 660 |
| 25 | GAACCAAGGG | CTGTTTGTAG | GCGCTGCTGA | ATCTCTTTCT | CTTCGTTTTT | GACGCGGACG | 720 |
| | TT | | | | | | |

1575RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGTAA | ACTTCAGCTC | ATCGTGAGCA | ACCGACGTCA | CCCCACCACG | CGCAGGCGAT | 60 |
| | ACTCCGGTGG | AAATCACCTG | AGTATATGCA | GTACTCTTCG | AACCATCGTG | AGCAACCGAC | 120 |
| | TCCACCTCAC | CACGCGCAGG | TGAAAGTCCG | TGGGATATCA | CCTGAGTACG | TGCAGGCGAA | 180 |
| | CTGCCTGCGG | AAATCAGATC | ACTATCAGCA | GGTGAAATCT | CAGTGGAAT | CGCCTGAGTA | 240 |
| | CGTGCACTAG | GCTTCGACTC | ATTGTGGGCG | ACCGATGTCA | CCTCACCCCG | CGCAGGCGAA | 300 |
| | CTGCCTGCTG | AAATCGCATC | ACCACGCGCA | GGCGAGACTC | CAGTGGAAT | CACCTGAGTA | 360 |
| 35 | CGTGACGGCG | AACGCTGTC | GGAAATCGCA | TCACCACGCG | CAGGCGAGAC | TCCGGTGGAT | 420 |
| | ATCAGCTGAG | TGCGTGCACT | AGGCCTCGAC | TCATTGTGGG | CGACCGATGT | CACCTCACCC | 480 |
| | CGCGCAGGCG | AGCTTCCAGT | GGAAATCACA | TCACCACGCG | CAGGCGAACT | GCCTGTGGAA | 540 |
| | ATCACCTGAG | TACTTGCAGT | AGGCCACGAC | CCANCGTGGG | CAACTGACT | | |

1575UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCAAAATAT | CAACTAAGGC | ACTAGTTTTT | GGTGTAGCTG | CTCAAGCATC | ACCGGATGCT | 60 |
| | CAGAAGCGTG | TAATTAACCT | ACAATCTCGG | ACTTCAACCAC | CCAAATCTGA | AACACATTCTG | 120 |
| | CATATACGGC | ACAACGCTTC | TAGCGTGTAT | CAGTCGGAAA | CAACAKATAA | TATAACTAAA | 180 |
| 45 | GATACCGGGA | TGTTTCTGTC | AGTGAAGTCA | GGCTTTCCCC | ATATACAACA | GAAAACCATTA | 240 |
| | TCAGCAGGCT | CTGAACCTGA | TGACACTGAC | TTTCAGAGAA | CACAACTAC | CAGCACAGGC | 300 |
| | CCACTTCCAA | CTTCAAGCGA | ATATGACTCT | GCCCCGTGTA | CAGTTTCATG | AGGACTTGAT | 360 |
| | ATTTCTCCAA | GACCACTTTC | CTCTAGCTCC | ACGATTTTTC | ACGAGTATCC | AACTGGTACA | 420 |
| | ATAACAGAGT | CACACAGACG | GCCTTATAAC | GTTAGCCAAC | TTCCCGAAAA | TAATGGGAAC | 480 |
| | TCAGCTGCCA | CTCGTGTGAT | TAAGAGAAAC | AGTTCTGTTC | TCAGCTCGCC | TGGAAGCGTG | 540 |
| 50 | ACCACCACCC | CAATGGTTAA | TCRAGCTACA | GTAATCAGCG | CCTCGCCGGG | AGCGGTTAAA | 600 |
| | TTAACCGAGA | AACAGCATAG | TCCGGCATCA | TCTTCAGATA | TTTCCACAGC | CAATAAAACA | 660 |
| | CATTGGAATT | CTATTGATCT | AAAC | | | | |

1576RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGTG | AGAACACTCA | ACATCGGCGT | AATTGCAGAG | CCCCGGTGA | CCATACCGAT | 60 |
| | TTTCTGTGAC | GCATTCTGTC | CATAGCTGAA | CCGTCTTACA | GGACCTTTGA | ATTCCACAGT | 120 |
| 5 | TTGGCCTGGC | TGTAGCCGAG | CAAACCATTT | GGATACCTTA | CCGTGACAT | AAGATTGAC | 180 |
| | AATGATATCG | AAATGGCCCT | CGGCAAATTT | GTTGGAGATA | GGCGTGTAGT | AACGCACTTC | 240 |
| | TTCTACACCA | TCCAGCATCA | CCTTCGCAGC | TAAATGAAAG | CCAGTAGGTA | TATCAAGAGT | 300 |
| | TTCCACGCTT | GAAACGAGCT | TGAATCTGTA | TATCGCAGCA | TTTTTGCTTA | GAACGATCCG | 360 |
| | TTCTTCCAAT | TCTAATGGCG | TCCACTCATT | TGGAAGAATT | GAAGTCTGTC | TTCTGTATGC | 420 |
| | TAGTAGCAGG | CGTGCACCTA | CAAACATTGC | CAAAGCTAGA | ATGCCTAGAA | GGTACCATGC | 480 |
| 10 | GTTCCCGGCT | GACCAGGCGA | TAACAAGAAC | GCCCAATGTA | AAGATGCCGC | TGGGGATGAA | 540 |
| | GATCCCATGA | ATGGGATCAT | CCAATATCTC | CATACCTCTG | CGTTCGGTCA | TACTAATATT | 600 |
| | TTGAAAGCTC | GTCGTAGCTA | TCGTCTAGTA | AGGATGAGAC | CGGTAAATAT | ATGCTTCCTC | 660 |
| | CTAGTTCTAT | AAGCACGGAC | TCTTTGCAAC | TGGTGAAGTA | TCTCTAACG | GTCATCATGC | 720 |
| | ATCTGCCGAA | AA | | | | | |

1576UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGCCG | GACGGGTACT | TGCAGGAAGG | CCTCACGAAA | CCCAAGGGGG | GCGAGGAGGG | 60 |
| | CTTCTCGACG | TTTTTCAACG | AGACGGGCTC | GGGCAAGTTC | GTGCCGCGCG | CGGTGTACGT | 120 |
| 20 | GGACTTGGAG | CCGAACGTGA | TGCAGCAGGT | GCGCACGGGC | GCGTACCGCG | AGTTGTTCCA | 180 |
| | CCCGGAGCAG | TTGATCAGCG | GAAAGGAGGA | CGCGGCGAAC | AATACGCGCG | GTGGGCACTA | 240 |
| | CACGGTGGGG | CGCGAGCTCT | TGGACGATAT | CCTAGACCGC | ATCCGCAAGA | TCTCGGACCA | 300 |
| | GTGCGACGGG | CTCCAGGGCT | TCCTCTTCAC | GCACTCGCTT | GGCGGTGGTA | CGGGCTCCGG | 360 |
| | CTTGGGGTCG | CTGCTTTTGG | AGCAGCTTTC | TATCGACTAC | GGCAAGAAAT | CGAAATTTGA | 420 |
| | GTTTGGCGGT | TATCCCGCGC | CACAGGTGTC | CACCTCGGTC | GTGGAGCCAT | ACAACACCGT | 480 |
| 25 | GTTGACCAAC | CACACCACAT | TGGAGCATGC | CGACTGTACG | TTTATGGTCC | ACAACGAGGC | 540 |
| | CATCTACGAG | ATGTGCAAGA | AGAACTTTGA | CATCTCGAGA | CCTAGCTTTG | CGAACTTGAA | 600 |
| | CAACTTGATC | GCCCAGGTCC | TCTCTCGGT | GACCGCGTCA | TTGCGTTTCG | ACGGCTCCTT | 660 |
| | GAACGTGGAC | TTGAACGAGT | CCAGACCAAC | TTGGTGCCAT | ATCCAAGAAT | CCACTTCCCA | 720 |
| | TTGG | | | | | | |

1577RP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCCGTTTA | GAGAAAAACG | GTAGCCCGGT | GAAATACGCA | TTTGAGTGCG | CAGAGCGGCG | 60 |
| | CGAGCCGTCC | GAAAGGTAGA | TTTTGTCCAG | TGGGAAGTTG | ACTCGTTTGC | TTATTTCCGAC | 120 |
| | AATCGACGTC | TTTCAGCTCCC | CGTCTTCCAA | CGGGGTGAGC | TTGTTGAATA | AAGCTGTAAA | 180 |
| 35 | AATCGGCTGA | AGAGCAGTCA | GCACCAGATA | GAAGAACAGC | ATCAGGATAG | AGACGTAGCT | 240 |
| | GACGAAGCCA | GTCGAGACTC | TTTCAATTAC | CTTCAACAGC | GCATAGGCTG | CAGGAGTGCT | 300 |
| | AATCATGGAG | GAGATCATAA | ACACTTTTTC | CTGGTCCGTT | AGCCATAGCT | TGACCGTGGA | 360 |
| | CTTGTTGAAC | CCGAATTTTT | CCTCGAGCAC | AAAGTTGTAG | TAATAGCTCC | CAAACAACCC | 420 |
| | CTGCCACCAG | TTTCAGCTGA | GGTAGACGAT | CAAAAAGTAC | AGCGACTGCG | AGATGGTCCA | 480 |
| | TACTGGCACC | AGCATGGCGG | GCATGCGCTG | ACCTACCGCC | ACTCCTAGGT | TCCACATCCG | 540 |
| 40 | TGGCAACAG | TCGTACTTAA | TCATTACCAG | ATTTAGTCCC | AGGAACACCA | GATCTCTAAC | 600 |
| | CATACGGTAG | CGTTACTTTG | CCCGCTCGTA | CGCCTGCGTC | TTTTGCATTG | TTTCTTTATC | 660 |
| | AATAACGCCC | TCCAGTTCCG | TGGGTA | | | | |

1577UP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTCCGAC | ACTATGTAGG | CCGCGTAGAT | GAGCAACATT | ACCACGCAGT | CCAGGACGGA | 60 |
| | CACAGCGTTC | ATCAGGCATA | CGTAGCCGAT | AATGCAGACG | GCCAGCATCG | CAAACAGTAG | 120 |
| | GTCCACGATG | ATCGAATGGC | GCTCCGCCGC | GCTAAGATTT | ACCCACGCAG | ACCTCATCAC | 180 |
| | CATAAATATC | GCGCCCTGTA | CCACACAGAT | GATAACGCCG | CAGGCGCCCA | GCACCTCACC | 240 |
| | CACAGACAAG | GCGGCGGCAT | TGTTGGCCGC | GTTCCACGAC | ATCAGACTGG | AGAACAAGTC | 300 |
| 50 | GGGCGACGAA | TTGCACCATG | CCAGTAGGAT | GGCTGCAGAG | ATGCCCTTGT | GCGGCGCGTT | 360 |
| | CCGTGCGCTC | GTCAAGGTCA | CCACTATGGG | ACATAAATAA | TCAGAAAGCGG | AAACGCCACG | 420 |
| | CAACACAAAA | CACACGCTCA | GATGTAGAAC | CGTCAGCACC | ACGAACCCAG | GGATAGCTTG | 480 |
| | TTCTGCTCGT | ATAGATACAC | TGGATGTGTG | ATCCGTGCCC | ATGTACTTGG | TGCATGGTCC | 540 |
| | ATCCTTGAC | TCTGCCTTTC | CAGGTACTTG | GTAATAGTAG | TGGTAGCCAC | CGCAACACTG | 600 |
| | GTCAAAAAAG | ACACCTRAAA | OCTCAATATG | TAAGGCGTGC | GAATGGTAGA | TGCGTTATTT | 660 |

AAAATGCAGT GCTTGAGATG AACAGATAGA CTGGTGCCC

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1578RP

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|----|------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCATCCTG | CTGCGAGTTG | AAGTCATCTT | GCGATTCCCTT | CATGCATAGG | AGTTGGTTAG | 60 |
| 5 | CACCAAACAT | AGGATTCAAT | CTCAAGTCCA | CCTGCGTTAA | CCGTTCTGTC | CTATACTTTA | 120 |
| | AGTAGTCGAT | GAACGTGTCT | GTAGAGTGAG | CCAGGTTAT | AAAATTAAAC | CTGTGGGAAC | 180 |
| | TATCCCGGTC | TAGTCGGATG | AGATTATCGG | TAATCTTAT | CACGACACCC | CAGTCCCTCGT | 240 |
| | TCGATAGACG | CTGGCTACCC | GCAGCCTCAT | TCCGCAACTC | CTTATCGATA | TCTATTCCAA | 300 |
| | GGATCTCGTC | CAGGAGAAATG | CTACCATTTT | TATCGTTTCG | AATGAACCTG | CCTCTACATC | 360 |
| | GAGCAAAGCA | TAGGTGTTTA | ATGTGGATAT | CCGCTAGATC | GAACCCAGAC | TCATCGCCGA | 420 |
| 10 | CTTTCTCTGT | ATCTAGCCCC | AAACCATGCA | TTAGCAGCTT | CAAGACAATC | GCCACAAGCT | 480 |
| | GCGATTGTTT | CCATGTCTCT | CAAGGAAGCT | TTACGACATA | TGGGATTTCG | TCATCGCCGC | 540 |
| | CATGTTCAAA | GTTTTCAGC | ATTAGCACGC | AGCTAGTGGA | TGGGGTGAAC | ACGATCCTAG | 600 |
| | TAAGGACCGC | GACGAACCTA | ACCTTCTGTG | CTACAATATC | ATCACTGGAG | AAAAACCTCA | 660 |
| | GAAGTTCCGC | GG | | | | | |

1578UP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTTTTT | TGGTTCTTTT | CCTTTAAACA | GAATAATAAT | TGAACAGGTA | CCGTATTATC | 60 |
| | GCCGCATGCT | AAGTGCACCT | TTGACCGAGA | CACTTTAGTG | ATATTTATTT | TGGTAGTGTG | 120 |
| 20 | CTCGTATACG | TGGGCCACGA | CTTTCTTGCC | ATTAATCTCG | TCCTTGGCGA | AGCCGTCCTG | 180 |
| | GTAGCATCCT | AACGCACTCA | TTAATGCCAA | TGATCGCGGG | TTGATCGCCT | CACGCCCATC | 240 |
| | CGAAACAACA | CAGACACATA | TCCGTTTCCA | GGCATCGGGG | CCCCAAATAT | CAGAACGCTT | 300 |
| | CCGTCCGAGTG | AAATATTTTA | TGTTGTCCAT | GACGCCTTTT | AATGTCCGTG | CCAATAATAT | 360 |
| | GTCGTTTTCTG | TTGTACATCG | TTATCACGAT | CATGATTCTT | GTCCTACGCG | GTACAGCGTA | 420 |
| | TTTTAATTGT | CTCACGGTAA | AGTTCTTTAG | CTGAAACTCA | GCTGGCTCAC | AGGTGACAGC | 480 |
| 25 | CTGATATCGC | ATGAATTTGT | ATTCGTTTCG | GAAGTAATCT | TCTCTCATGC | CACGTGCGTA | 540 |
| | CTGCGACACT | AGCTGTTTAC | TGACTGGACA | ATCAAAGATA | AAGTTTCCTC | GATATAGCTT | 600 |
| | GAACTTTTCG | AATACAATGC | GATTTTTAGG | CTGTTTTCGAC | TGCGGTAAAC | CACTCAGAAG | 660 |
| | CCGTTCTGAG | CTGAGATCGC | TGCAGTCGCC | AGAACCCTCG | GAACCGGAGT | ATGCCGATTA | 720 |
| | GGCGCTACGC | GAGAGAT | | | | | |

1579RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAAATA | CCACTGATCG | ACCGCGGTGC | CTCGCTTTGC | AGCTGCTCCG | AGAGCCGCTC | 60 |
| | TCCGAGATAC | CGCGCAGAGC | ATGCCTTTTC | CAACACCATC | TTCTCGTACC | GTTCGGGAAG | 120 |
| 35 | TGACCCTACT | ATACTTATGA | TAATGACCTT | CTTGCTCTTC | AGAGTGCCCT | CTGTTTCCCT | 180 |
| | CTTCAGGTAA | AGGTGCGATT | CTCGGCCAGG | CTCGTAGTAG | CCACGGACCG | CAGACGCAAT | 240 |
| | CCGCGTCGTC | CACGGCATGG | GATGGAAGTA | CTCCACCGGA | GAGTGGCCCG | GCAGAAGCAC | 300 |
| | CGAGTTGTTT | ACGCCGACCA | CGTACTCCGA | CTGGTGCTCC | AGCCGACACA | CCTCGAGCGG | 360 |
| | ATACTCTTTC | AGCGGCAACT | GGCAGTTCTG | TGACCCGGTG | TTCCGCAACG | TCAGCTCCGC | 420 |
| | CTCGACCAAG | CCCGCAGACC | CCGCCATGTC | TCCCATGTCC | GGCAGGTACT | CCGTGTGCCA | 480 |
| 40 | GCACCAGGAG | TCATTTCCCC | GCGCTACCGC | CTGCAGCGCC | TCTTGCTCCA | GCATATGCAC | 540 |
| | CTGCTTCGCA | GTCAGCTGAT | GGTACTCCGT | GCTCTGGTGC | ATCAGCAGCC | CGTCTCTGGG | 600 |
| | GGTCTGCCAG | AACGGCATCC | ATCCCACCAC | GCTTTGTAGA | AACGAGGTGC | TGGGGCGCCT | 660 |
| | GCA | | | | | | |

1579UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGCACGG | ACCGCGAGAC | GAGTTCTCTT | GGTTCTGTGC | ATTGGCGATG | GTAGGCCGCC | 60 |
| | CTGTTGCACG | TGACCTGGGG | ACAGCAGACT | TGCGGTCAAA | ATCACCTTA | GCCTCAGCTG | 120 |
| | TGATGACATC | AGCCAAAACG | GCCGTCCGTA | AACACCTTCC | GAGGCGTTCC | TMGACTTGAG | 180 |
| 50 | GATCAGTTTA | CCGTGCTTAC | CCTTCCCGTG | CGCCTTTTCG | AAGGACTCGC | GGAGCGTCTC | 240 |
| | AATACTTGT | GAGAGCTGTT | CCAGCGAGAT | ACCTCTTCTT | GGAACTGAGG | AAACCTGTGC | 300 |
| | GCCCAACGCC | AAGGCAGCAT | GCGTTGCCAG | ATAGCCTGAG | TTACCACTCT | GGACATCGAC | 360 |
| | GACAAAGACC | CGCGCTCTTG | TGGAGGCTGC | CGACTGCTTC | ACAACATCAC | AGTACTCCAT | 420 |
| | TAGGGCATTC | AGAGCTGTGT | CTGAACCGAG | CGAATACTCA | CTGCCCGGGA | CGTTATTCTGA | 480 |
| | AAGTGTGCT | GGAATGAGTA | CCATTGGTAT | TCTGAAAGCT | GGGTAGTTCT | CACGGGCCCG | 540 |
| | CTCAATTTGA | TGCAAGGAGA | CGAAGGCTCG | AACCCACCAA | CAATAACCAA | GCCGTCAAAC | 600 |
| 55 | TTGTACTTTT | GGAAGTAGTA | GGCAATCATG | CCAATGTCTG | CATCTTCTGG | GACAGTTCTG | 660 |
| | TTGGTTCCCA | ACTCGGAACA | CCGCGAGATT | GCCAGCCAAG | CATATCTTTC | CAGTTCAACG | 720 |

1580RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGTGTC | GACAAGTTGG | TCACGTATAT | ATGGCGCGTG | TTGAGCGCG | TCTGCGTGTA | 60 |
| 5 | CCCCCGGAAC | CAGCAGCGCT | GCCATCTCGA | AGACATCATG | CTCTTGCGTG | TGTACTGCGG | 120 |
| | CGAGCGCGCG | GGGCACCCGC | TCTTGCTCAT | GGCGATCGTT | CAGGCGGTGG | CGGCACGCTA | 180 |
| | CGGGGTGCAG | ACGCTCCTCT | GCGAGCAGGT | ATTGATCATC | ATTGACCGCA | AGTTGCGCGG | 240 |
| | CGGACAGTCA | TACTTGATGA | TCCCGCTCG | AGGGAACGCA | AAGCCGCGCA | TCTTCACGCG | 300 |
| | GCGGCGCTTG | CTCGACACTA | TGCGGCACAC | AATACCCAAC | ATTGCCGACC | CGCGGAGCCT | 360 |
| | GGCGCTCGCC | CGGTTCTCTA | CTCCGCTCAC | GAAGCGCGCG | GGTGCTGAGA | AAATCTTCAA | 420 |
| 10 | AGACTGGTCC | ATCTACTGCG | ACAAATCCAT | ATGGCGGACG | ATCCCTGATC | ACTCGCCCAA | 480 |
| | TGGCATTCTG | CGCTACCTCC | CGCACTCCTG | CACGCCGATG | GACGAATCCA | TCTTTGAGTA | 540 |
| | TTTCATCGTC | TATTGGAAAA | CCGCAACAGC | AAACCACTCC | ACGAACAACA | TTTTCCACAC | 600 |
| | CGTTCTTCTC | AAGCAATTCT | AAACGATCTT | GGTCAAGAGT | ATCCCGGCGA | CGCATCCACT | 660 |
| | TTGTGCGATTG | CCGGGAGCAG | CTCATGGACT | CCATTATCGA | GATGTCTTTC | GCGAGTCC | |

1580UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCCTTTTC | ACCAACAGCT | GTCTGGGCCA | GCTGCGGCCT | GGGATGAACT | ACAACGAGGC | 60 |
| | AGTGAAAGCG | CTGACGAACC | TGGCGCTGGA | CAGCTTTACA | CTGCCGGGGG | ACGGTGGGGT | 120 |
| 20 | TTCCGCTGAA | CAACGTGTAC | TCTGTGCCGG | TAGAAGACGG | TGCTCAGATG | GAGCTGCTGA | 180 |
| | AGGGGTACCT | CGCAGAGTTG | CGGCAGGAGC | TGGCCACGCG | CCTGCTGGAC | CGTGTGTATG | 240 |
| | GGGCGGAAAA | GGCAGACGCC | TCGAAGTTCT | GGCTGGCCTT | CACAAGGCGC | AAGTTTATGA | 300 |
| | ACAAGGCGCT | GTAAGGCGAA | ATAGGTACGT | AGCTGGCGGC | GCCAGGAAGT | ATTTACAAAG | 360 |
| | TTGGCTGTAT | CGCTACGAGG | TTTGTGTGGC | GTGTGCCTTG | TTGGAGCGCA | CGAGGAGTTC | 420 |
| | AACGGCGGAA | GCTCGGAGCT | GTTCGCGCTC | TTTCACGATC | GCGTTACGCT | CAATGCTGAG | 480 |
| | GTCGGTGTTC | TTGGCGCGGA | AGCCTTGGAT | CCGCGCCTGC | AGGTCTGTCA | GCGCCTGGAG | 540 |
| 25 | GACACGCTCA | TAGTCTGCAT | CTTCTTTTAC | GCGCTCTTTG | TATGTTTGA | AGGACTGAAC | 600 |
| | GATGTCTTCG | ATACCGGGCT | CGACTCTGCT | GATCATCTCG | ATGCGCTGGC | GCAACAACCTG | 660 |
| | ATCGCGGTCTG | CTGTTGGCGT | CGCGTCCCTA | ATCATCTGCT | GGATT | | |

1581RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTTAATT | TAAAATTTTA | ATTAACATAT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAATAACT | TAAGATAGTA | AGAATAAAAT | TAGTAAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCAT | AAGAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| 35 | ATTTTATTAT | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTTAATATT | 300 |
| | AAATATACCA | TTTTTATPAA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTATTTTAA | TTAGTCTAGT | AATATTTCTA | TTTAATAGTC | TACCTTTTAA | 480 |
| | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAGAA | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATATAAATT | AATTAAATCT | TTTTTATTAT | TATTCTAAAT | 600 |
| 40 | TATTATTAAT | TAGTAAATTA | TATTTATTTA | TTTTATTAAAC | ATAATTTTTG | ATAATAATAT | 660 |
| | ATCAT | | | | | | |

1581UP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| 45 | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATTGAGTTTA | TATPAAATTC | ACCACCTCTT | ATTCAATTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCTTAAAAATA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAATTG | 240 |
| | GTAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| 50 | ATCATTAATA | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAATGCTGA | AAGCATPAGG | 360 |
| | GGTGTGTACC | TTAGCTCTCT | AATTAAAGTT | ATAAAAATTAT | CTTAACTAAT | AAAAATAATT | 420 |
| | AATTAAATAA | ATAAATAATT | AATTAAATTT | AAAATGTTTA | AAAAAAGAAA | TAAATAATAT | 480 |
| | GTTATATTTA | AATAGATCAA | AATTTCAACA | ATTTCATTT | CATTTAGTAC | TACCATCACC | 540 |
| | ATGACCAATT | GTTACATCAT | TTAGTTTATT | AGGTTTACTA | TTAACTTTAG | CTTTTACTAT | 600 |
| | ACATGGTATT | ATTGGTAATA | TTATCTCTTT | ATTATATCT | TTATTAGTAG | TTTTTACTAT | 660 |
| 55 | AATAACTTTA | TGATTTAGAG | ATATTGTAGC | TGAACCTACT | TATTTAGGTG | ATCATACTTT | 720 |
| | AACTGTAAGA | AA | | | | | |

1582RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCAACA | CGGTCTGTTG | AGAAAGTGTG | AACACACGAG | TACGTAGTAC | CCAAATCAAT | 60 |
| 5 | ACCGACTGAT | TTAGACATGA | TCAGTGATTA | GAAAAACGAA | TCTCTGGTTT | TCGGATAACC | 120 |
| | GGGAGAAATA | CCAATGGTGA | TAACCGTACG | TAAGGCCAGA | GGTACAAAGC | TACTCCAATC | 180 |
| | TGAAGCTACA | CACGCCCAAC | CCTTTTATAC | AATTTCATAT | TTTTCTCTCC | CAAACGAACA | 240 |
| | TGGCAGATAG | TAAGAGTCTT | CGAGCCCAAT | GCCTGTTCGG | TTTTTTTTTG | TTCTGGAAAA | 300 |
| | TTCTACCATA | ACGTATGTGG | CCGTTGAAAA | CTGATCAAAC | GGGTCTCGAA | GATCTTAGAA | 360 |
| | TAGAGGCTCC | GACAGAAAGG | GGGAGGCCGA | TTCAAAAAAG | ACCGCATGAG | CCTCACTCGT | 420 |
| 10 | GCTTCGAGGC | GGGAGAGCCC | ATAGGCTTCT | TTCCAGCCGC | CACCGACGGT | TTCTGGAAAG | 480 |
| | GAGCGAAAAC | AGAGAATGAA | CCGAGGCCGT | TGATCTGCAT | CTTGGACTTG | GCCTAGGCCC | 540 |
| | GTTTCAACTG | AGCGGGAATG | CGTGGATGCG | AAACTACGCC | GTCCGCACGC | ACCTCCCACT | 600 |
| | TCCGTACCAC | CGCACGCATG | TTGGCCGATT | TTCGTAGCGC | GCCTTGATGA | AAAGCGAGTA | 660 |
| | TAGAGCCAGC | ACAATCCACG | AGCGGCCGGC | ACAA | | | |

1582UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTTGTTT | TCCGCATCCA | GATACTGGTC | GAAGCGCGAG | TTCATCTCGT | CTACAATCGG | 60 |
| | CTTCCACGAG | TCGGTGTTAT | CTATCGCGTC | CCCGAAGCCC | GGCGTGTTCA | CCACCGTCAA | 120 |
| 20 | CTTCAACACC | ACGCCGTTCT | CCTCGATCTC | CGTCGTGACG | GTCTCAATCT | TCACCTTGTT | 180 |
| | CTCGCCGTCC | TTGGCCCGCG | ACTCGTCCGC | GTCCCTCAGC | TCCTCAAGCT | TCAACGCGTT | 240 |
| | GAAGTGTCTC | GGCGTGTCGT | CCTTCGCCGT | GTATAGCTCC | TTGTTGAACA | ACGTGTTGAT | 300 |
| | CAAGGTGAC | TTCCCCAACC | CCTTGGCGCC | CACGCAGAGC | AAATTGAGGT | TGAACCCCGG | 360 |
| | CCGGATCGAC | TTGCGATGCC | ACTGCTTGGG | AAGGTTTTCG | AACCCACAGT | ACCCCGAGAT | 420 |
| | CTTGCCGTGG | ATGATCCGCA | GGTCTGGCTG | GTCTGGCAGC | ACCTGGCCCG | CCGCGAGCTC | 480 |
| 25 | GCCACCCAGT | GCCGTCGCCA | CATTCTCCTT | GTCTGCCGGA | AGGTCCAACC | CCATCTCCTC | 540 |
| | CTCCTTCACG | TTCAATGTCCG | AGCTTGTGTC | CTTCGCCGTC | GCCGTCCCGT | TGCTCATTAG | 600 |
| | TGCGCCCCCG | TGCTGGTTGT | CACGCCTCCC | GCCGTCGTGG | CACGTGTTGT | GTTTGCCGAA | 660 |
| | TCTCTCTGCG | AGCCTGTAGG | TAACATGCTT | GTTCTGATTT | GGTAGTC | | |

1583RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCAATTAC | CCTGGCGCCA | ACCATATTTG | GATGAATATT | TGCATTGTTG | CCGATAGGGG | 60 |
| | TTCCCTCATC | GTGTATGTTA | TAGACCTTCA | CGTCTTCAAT | AAAAGGGCAT | GTGATGACTT | 120 |
| | TCTTGCTGTC | GGCAGAGAAG | GTCAAACAAA | TTACAGATTG | TTCTGTACCG | GCCAAAACCT | 180 |
| | TATAAACCCCT | GAAGTTGTTT | AACACGTCAT | ATATGAATAC | CTTACGATCG | CTGGAAGGGT | 240 |
| 35 | CAGTGGATGC | ACTGGCCAAA | TACCGACCAT | CTGGTGAGAA | TTGGAGGTAC | CAGATTTTCA | 300 |
| | CTTTATTTTC | CGAAAGAGTC | TTACATGAC | TGAAATTTGAA | CATGCACATA | GAGCCAACTG | 360 |
| | TATCTTGAAG | CAAGTTATAA | GTGGTTTTCT | CTCCAGAACG | GTTTCCTTCG | TGGTTGTGAG | 420 |
| | GATCGTCGCT | GAAGCTTAA | AGGTGCGCTG | ACCGCTGGAA | CTGTATAGCC | TGTTTTAACA | 480 |
| | ACGTAATGAG | CCTGCCCCGT | GGAACCAAAT | CATTCCGGTT | GATATATTGT | GAAATCTGAT | 540 |
| 40 | CAAGCGCCAA | TTGCCGCGAG | GCTGCCAGAG | ACCCTCCCCA | TATTTTGTGT | GCCTCTGCGG | 600 |
| | ATTCCGCAGG | ACACGTCAA | ATAGTCGTCA | CTGCAGAGAA | GCTGTGTGCG | GAGTCATAGC | 660 |
| | CCACTCTCCC | TCCGGCTCCT | CCACCATAGA | TATGGTCTGT | ACAGCCACAG | CGAGTCC | |

1583UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGACTGG | AAGTACACGT | CCAGCGACCG | GTCAAGGCCC | ATGTCCTGGA | CGGACTGCTC | 60 |
| | GAAGGTCTTC | ACGAGGTTCT | TGGCGATGCG | GAGCATTTGT | GTGCGGTCTG | GGGCGGGCGA | 120 |
| | CGCTGCGGAG | GGCTCACCGA | ATTTGCTTGT | CGGTGTGGTC | ACGTGACACT | TGGGCCGCTG | 180 |
| | GCCCCGCCGG | GCCCCGCTGG | CCCCGAATGG | CTGCCCCGCC | CTGGCACGCC | GTTCTTGCAA | 240 |
| | TCACATGATT | CATGATTCGG | CTTTTGGGGG | GGATCACTGC | GCAGCCGTTT | TTGCTGCTTT | 300 |
| 50 | TAGCCTCCCT | GACACCTTCG | GCTGCGTCTG | GACGCAGGTC | CCCCCGGGCT | GTCCGCTGCG | 360 |
| | TGGCTGTACG | TGTGGGGTGA | CGCCATTTTG | TGGGACAGCG | GCGACGCATG | ACGACGAGCT | 420 |
| | CGGAGGGTCC | GCCGTTGACG | ACAGCCCCCT | AAAGGAGTTT | CTTTTATTCG | ACGCGGCCCC | 480 |
| | TCAAACACTA | TATATGAGCA | AAGGCAGGAT | GGAAGGTAGG | CTAAAGCAAG | AAAAGACCTC | 540 |
| | GACCAACGGT | ATCGAAGTCT | AAAATCTTAG | CAGGTACCAG | GATGTCCTTC | GAAGATTTCG | 600 |
| | ACAAGTCGCA | ACCGGGGAAA | GTGAGGAGG | CAGTGGACGA | AATATGTAA | GATTTCGAGG | 660 |
| 55 | TGACGGAGGA | CAAACCTCCG | GAGTTGACCG | CGTACTTCAT | CGAATGTTTG | GAACAG | |

1584RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAAAA | GCCTTCCGGG | CGCGGGCACA | TTTATCACAC | CCGCTGTGCT | TGACGGCCTC | 60 |
| 5 | GACAATACAT | CCTATGACAT | GCGTAATCCC | TCCTATGTTG | TTCCGACGCG | GCGCAAACGT | 120 |
| | GCCAGCGTCT | CGAAGGCTTC | GCGCGCGAGC | AAGAGTTCCT | CGCCCTTGA | AGAGGAGGAG | 180 |
| | AAGCCATTTA | AATGCCAAGA | ATGCACCAAG | GCCTTCCGCC | GCAGCGAGCA | CTTGAAGCGC | 240 |
| | CATATACGCT | CTGTGCACTC | ATCGGATAGG | CCGTTTCCGT | GCACCTATTG | TGATAAGAAG | 300 |
| | TTCAGCCGCA | GCGACAATCT | GTCGCAGCAT | CTCAAGACAC | ATCGCAAGCA | TGGCGATATA | 360 |
| | AAAGACACGC | CACCAACCAC | CAAGAAAGGC | TGACTTTTAC | ACATCTATGC | GAATACCCGA | 420 |
| 10 | TGTTGCATTA | AGAGATACAT | ACAGCGCATA | CAAGCTGACA | CAACGTCCCG | TACGCCAACA | 480 |
| | GAGGAGATGA | TAAATACTAC | ATACTCAATA | TATCAATACC | TCCTACTTTT | GGTAATCATA | 540 |
| | TATAACTGTT | TTCTTTTCGA | CTGTTCTGGT | AACGTTGTCA | TAGGTTTCCC | TGTTGCTGCT | 600 |
| | AGCTGGCCAG | GATTCCCTTA | ATGGATGAGG | TCCGGCGCGC | AACCAGACAA | AAGTTGCGCA | 660 |
| | GCTTAAGATA | GTTGGAC | | | | | |

1584UP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCCATTT | TGTCTTCTTC | GGCTACCGGG | ACGGCCAGTA | GAGCATCCAG | AATAGATGTT | 60 |
| | CACCAGTAGG | CTTGCCAAGT | GCTCATTAGT | TGCCGTCACA | TGGCTGCCCC | TGTACATGAC | 120 |
| 20 | AGTGACACAC | CATGTTGTAT | TCATATCGAA | GGTGAAGGC | CCCTCGATGC | GCCCAACGCT | 180 |
| | CAATCCAATG | GACGGAGTTG | CATCGGACTG | GGTTTTGGTG | TGGAAGCTTG | GAAAGACTAA | 240 |
| | TATTCCGGAAC | CTGAATCATG | GGGACGTGGT | GATCTTCCCG | TCACCCATGA | ACCCCAAGAA | 300 |
| | AGTATACTGC | AAGCGCATCC | AGGGTAAGCA | GTATGATACG | GTGCGCACGC | GGTATCCTTA | 360 |
| | TCCGAAGAGT | ACCTGCGAAG | TGCCAAAGTC | GCACATATGG | GTGAGGGGGG | ACAATGTTCAC | 420 |
| | GCAGTCGGTG | GACTCGAATC | ACTTCGGGCC | GATTTTCGACG | GGGCTTGTGG | TAAGCGAGGT | 480 |
| | GACACGGGTC | ATATGGCCGC | CATCGAGATG | GGGCGCAGAC | CTGCACGAGG | GCATGGGTTCG | 540 |
| 25 | ACGCGCAGTT | GTTGCTTCAT | GATTGCGGGA | GCCGGGGTAG | GCGAACCTAC | CGCTACGTGT | 600 |
| | ACATAGCTGA | AAGACTAGAT | ATTATATAAT | GTGGAACAAC | GTGCTGCACT | GCGGCAGAAG | 660 |
| | GATGGCTTAA | GAATCGTTGT | CCTCCTCCTT | GACGATCTCT | GGGAAA | | |

1585RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCCGTT | GTTGTGCACG | TGTGATTCAA | TATATACATA | CTGCAAGTCT | GTACATGTGC | 60 |
| | TCTATTATAT | ATGGTGCTCA | TGTTGCGCTT | ACATTCTTTC | TTTATACAGT | TCATGTCCTT | 120 |
| | CCGTCGTGGC | ATACCCAGTG | ATGCCCGTCA | TACCTGGTAA | CCACAGTTTC | TATAATCATT | 180 |
| 35 | CAGGCTGAAC | TGATCAATGG | AGCTGCGTTC | GCCGAATTTG | ACGCAGAGGT | TGTATACAC | 240 |
| | ATTGATGTCC | GCCCTCGTAA | AGCCCTTGCT | AAACGTGCAG | AAGCAATTCT | TCCGTTTGGA | 300 |
| | ACACGAAGTG | CAAGGCTTGA | ATGCTATCAA | CTTATCCACA | TGCTTCAGCA | GCGTCAGTTC | 360 |
| | CTTTGTGAGC | AGCGCCTGCC | TCACCTCGTC | TGGAATCTGG | CTAAGCCACT | CGTTTGCCAG | 420 |
| | CTCAGACACA | TTTACCGGTG | CGTGAAGCAT | CTCGTTGAAC | GAGCCTGTGA | CCGAGGCGTC | 480 |
| | CTGGAACAGT | ATCGTGATCG | TGGCGTCACA | CTTAATCTTC | TTGGAGCGGC | AGATGTGCGA | 540 |
| | GCTGGGGCCC | GTCCGCTGAC | GCTTGACTTC | CGACGCCGTG | ATAACGGTTG | GCTCCTGTAG | 600 |
| 40 | CAGCGAGTTC | GGTGGCGAAC | AGTGCGCTGC | ACGTCCCCCG | TTGGAAGCCC | GAAGCAGATT | 660 |
| | CCGACATCAG | CGGCGACATC | GACACGCCGC | GCGCGGACTC | TGGCGAGCGC | GCGTGT | |

1585UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCACTCTA | CGGGGGACAG | TTGATTGAGT | CCAGTGACGT | GAATGTCAGA | GAGTCACCAT | 60 |
| 45 | TTTTCAACCT | ATGACCCTCA | TCGGCCAGCA | TGAGTCCAAC | CTTGACGCCT | TTTAAATTTT | 120 |
| | CTACATTTTC | CCGCAGAGTC | TCATAGGAAA | TAAATCAATAC | AGGCTTGACT | ACATTACGGC | 180 |
| | CCTGGGCAAT | CGCCCACTGC | CTGACGGACT | GTGCAACCGA | GCCGTTGCGA | AGGGAACCTT | 240 |
| | TACGTCCATC | GATAGCCAGT | GGCGAAAGGG | CATCGGGTCC | CAACCACCTC | ACAATCTCAT | 300 |
| 50 | TAGCCCAAGT | ATTAACCAGG | GACGAAGGGC | AGACAATGAT | GCACCTTTCA | ATTGTAGGAC | 360 |
| | GACCTTGGGA | CCCTTCCCGT | AGTAGCGTCC | ACATTAAACGC | TATACATTGC | AGCGTTTTAC | 420 |
| | CTAGACCCAT | TTTCATCAGC | ATAATACACC | CATAAGCCCC | CCTATTTGAT | TCTCGAGTCA | 480 |
| | TAGCTGCATT | GGCATCCAAG | ATCTCAGGCG | AAGGCGTCCG | CGTCGGCGTA | AGAAATCGGCG | 540 |
| | TCCGGCGTCT | CTCAAGCACC | TCCACAATA | TTGGCTCACT | ATCTTTACTA | CCCGGATCCT | 600 |
| | TACCAAGTGC | ATCGTCTTGC | ACCTCGCCGG | CTGCCAAGAG | AGCCTGTGTA | TCCAAAAAAT | 660 |
| 55 | CCTTCATCGC | CAGACCAGTC | ACACAGCGGT | ACAGGAATCT | TACCCCTTCC | ACTTGATGAG | 720 |
| | GGCGTTAAAT | CCGCGCCAGA | | | | | |

1586RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGGCGT | AAGGGCAGGA | TATGAACTAT | GGAGACGTCT | ATTTTAAACT | CAATGGCATA | 60 |
| 5 | TAAACACCGC | ATATTTCTTG | TGGTTATGAT | AACTTCAATT | ATCGAATCAG | TGGCAGCGTA | 120 |
| | GAGGGTTGGT | GAGAGTTTAC | CACGATATCC | AGTTGTTGCT | GCGCCCGCAG | CACCAAATAT | 180 |
| | AACTGAGAAT | TTAAGTTTCT | CGAAGAGAGT | ATGCAACGGG | GGCTTGTCOA | CTACGATTA | 240 |
| | AAGAGCACCA | GCTTTCTCAT | GCCTTCAACT | ATGTCAATAT | AAATATATTG | CAAAAGGCTT | 300 |
| | AAGCTCTGTA | TTGAGCCCCG | GAAATGTTTC | TAGCAATGTA | GCTCTCTCAT | CTTCACATTA | 360 |
| | GGCTGCGAAT | GTGCTGACCA | ACTGCAAAAA | CCCAGTCATA | TCGTAAATAG | TGATGATAGT | 420 |
| 10 | CAGCGCGATA | TTTAACCGCG | GGTGCAAAAA | ATTGATTTCG | CCCAGGATCG | AACTGGGGAC | 480 |
| | GTTCTGCGTG | TTAAGCAGAT | GCCATAACCG | ACTAGACCAC | GAAACCAACC | TTGAAGAACC | 540 |
| | CACGCCGCGA | AACCGACCAA | CACAACCGGT | GCAAACCACG | TGCCTGACGA | CTCTTTAGGC | 600 |
| | GTGTGCTAGG | GGGGCGCCCA | CTCGTACTTA | TTTTATAAAC | CTTGGATCCA | GGTGCGTCCA | 660 |
| | TATACAGGGC | GATCCGCGCC | ATCTGCAGCA | GCCAGGAACG | CA | | |

1586UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCAACAAA | GTCAAAATCCA | AAATTGTGCT | GGGAGAGAAA | AAGATTCCGC | CATCATTTGGG | 60 |
| | CCTTTTCTAT | AGCCATCAAT | TCAACAATCG | GTTAAGCGAT | TTGAAGCCTT | CAGCCCTTTA | 120 |
| 20 | TGAGGGTGAT | CCTGAGAAAC | AAGATGGGAC | TGCTACCGAT | GGAAGCAGCG | GTAAGTGCCA | 180 |
| | TGGGTATGCC | ACTGATGATG | ATATCATTGT | CACAGGCGAG | AACACCGTTT | ACAGCCTAAG | 240 |
| | CCAAGGGATT | GCATATCATA | TAGATGAGGA | AGGAAACTAT | TATTATGCTG | GTATCGATCC | 300 |
| | GTTTACTGAT | GCAATCGAAC | AAGAGGCAGA | TTGCTTATAT | CATGAAAGTG | AGGTAGAAAG | 360 |
| | CGTAAATGTC | AACAACTTGG | ACCATCTTTC | TTCCGATATC | AAGGAAGAAA | ACATAGACCT | 420 |
| | CGATGGTAAC | ATAGAAATGT | ACGATTCTGA | CTTTGACCAC | ACTTCCCTCG | ACCAGGTCCC | 480 |
| 25 | GAAGGCTACA | GAAACAATCG | AAAAATACAA | TAATAACCAA | TACTACAAGA | TGAACACGCT | 540 |
| | AATCACTGAC | TCATCAAAAT | GCCAGGGCAA | CACGTAGCG | CTCTCATCTG | ATTATGGAAC | 600 |
| | AACTTCCGTG | CATGTTGAAA | ATGTCTCTAA | TGAGAATTCC | TTGGGGTCAT | CAGGCTACAA | 660 |
| | GGAGATATTC | CTGAAAACTA | TGATGACTAC | CTTTACGAAG | GGGACGAAGA | TGATTTCGAT | 720 |

1587RP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCATCGAG | AAGGAGCTGG | AGGGCGTG | CATCCGGCTG | AACAAGTCGC | CTCCGGACAT | 60 |
| | CATTGTGAAG | AAGAAGGAGA | AGGGCGGTTT | ATCGATCACG | AACACAGTGC | CGCTGACACA | 120 |
| 35 | TTTGGACCAC | GACGGGATCC | GCGCGGTGAT | GAGTGAGTAC | CGCATCAACA | GCGCGGAGAT | 180 |
| | GCGGTTCCGG | TGCGACGCGA | CAGTTGACGA | CCTGATTGAC | GTCTCTGAGG | CTCCGAGCAG | 240 |
| | TGCGTTACATG | CCGGCTATCT | ACGTGCTGAA | CAAGATCGAC | TGCTGTCTAG | TGGAAGAGTT | 300 |
| | GGAGCTGCTG | TACCGGATTC | CGAATGCTGT | GCCTATATCT | AGTGGACGGG | AGTGGAACTT | 360 |
| | AGATGAGCTG | CTCGAGGTCA | TGTGGGATCG | CCTGAACTTG | GTGAGAGTTT | ACACCAAGCC | 420 |
| | CAAGGGGACC | ATGCCCGACT | TCAATGACCC | GGTTGTGTTG | CGGTGAGACC | GTGTCACAGT | 480 |
| 40 | GCGGGATTTC | TGTAACCAA | TCCACAAJTC | TCTGGTTGAG | GAGTTCCGGA | ATGCTTTGGT | 540 |
| | TTACGGTAGC | AGTGTGAAC | ACCAGCCTCA | GTACGTGGGT | CTTGACACACA | CTCTAGAGGA | 600 |
| | TGAAGACGTT | GTGACAAATC | TGAAGAAGTA | ATGCTCTGGC | ATTTATGCAT | GGTTTCAATG | 660 |
| | CACACGTTCT | CGCGCTGC | | | | | |

1587UP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCTAATA | AAAGCTTTTC | TGCAATTGCT | CTACCTACGC | CTGGAAGGTC | GCGTAGGGCA | 60 |
| | CACGTTTCAA | ATAGATGTGC | AGGAGATACG | ACCTGCGTAT | CACCCCCCTT | AATTGATTCT | 120 |
| | TTAGTGCAAA | CCAGATAGCC | ATCAGGTTTC | GCACGTTTGA | AAGCCAACCG | GGCTAGAACT | 180 |
| 50 | AAGGACGGTG | CGCACCCAC | GCTTACCGAA | CAGCCGCTG | TGCGCTCTGC | TACTTCTGAT | 240 |
| | CGGATGCGTA | TACACAAGTT | TTGACAACTA | AGTGTATCGA | GCGGCATGTC | AATAACACAG | 300 |
| | ACAGCCTCAT | CCACCGAAAT | TGGATACACT | GCGTCGAAAG | CCTTTAAACC | CTCCAATACC | 360 |
| | TCGTAGAAGG | CATTGCAAAAT | CGTTTCGTAT | TCATCGTAGG | TATAGGGGAG | GCAAACCACT | 420 |
| | TGGGGGCACA | AGTTCTTTGGC | TTTGGAGACC | CACATGCCAT | TTTGTATTCC | ACATTCCCAG | 480 |
| | GCAGCATAAT | TACAGGAGGC | AACGTCCGAA | GATGAACCCC | CATGACACAC | TGCCAACCGT | 540 |
| | ACTTCGGCCT | TGCTTGGATA | GCCCGCCTTG | ATGCCGTAAA | TAGTCGCAAA | AAAGCAATCA | 600 |
| 55 | AAATCCACGT | GGAAGACGTG | TGCTGGTGG | GCCCGCAAT | CATTAGCGC | ACCTTCATT | 660 |
| | ATCCGGAGAT | GCCTGTGCG | AAACTCTCGC | GTAGAGCCGC | CT | | |

1589RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|-------------|-----|
| 5 | GATCATTCAA | GCATATTTAT | TAATTAGATG | ACATTAAACT | ATTAGACCTT | GGTTTGGGTT | 60 |
| | GCTGGACTTA | GGGTTGTGGT | AGTCCGTGGG | TTATATATTT | TTTGTAGACA | GTCACCAACA | 120 |
| | CACCTTGATGT | ATTTCTTTGA | GCTGTGTGCG | ATAGGCTCGC | ATTGGATGCG | GCACTGCTCA | 180 |
| | TTGGCATCCT | GCCCCTCAGC | AATAACCATA | GCGGCGCCCG | CTAGAAGACC | GAAGAAAGTAG | 240 |
| | GTTAGCTTCA | TCTTGTGATA | TTATTCTGTG | TTTAATTAAA | TGGAACCTTA | GTGCTCTGGT | 300 |
| | TCTCTGCCAT | AGAGATCAGG | ACCTTGGTTA | GATATCCGTG | CCCTTATATA | CACTGCTGCC | 360 |
| | AAGGATCGAT | GGACTGTAGC | CGAGCACCTT | CCAACTCAAA | AGATCCGACA | TCAATGTATT | 420 |
| 10 | ACTGAGAGCC | AGTATACTTA | CCGCTTATCA | CACTAAACCC | CATAGCCATG | GTTACGAAGA | 480 |
| | TGCTGATCTA | TCATCCCACA | CAGCTCGCCA | CTGTAAACGG | ACTTGAGGTG | GGCGACAGAA | 540 |
| | GGCCACTACA | GGATGAGCGT | AAATCTCCAA | CAGCTAGCAA | CACATGCCAT | TATTCTATAC | 600 |
| | GAACAGTAAC | GTGCTTGATA | TTACAGAATA | CCGATTAGGT | TTTTTCCTGC | CAGACCAAAT | 660 |
| | ACTATTGGTC | AAACTCAAAT | TTAGTCAGGC | TTACATTACC | TGCGTACCTC | GAAGGTAGCA | 720 |
| 15 | ATGTTAGGCA | CTCTGGCAGT | A | | | | |

1589UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 20 | GATCTTCTTG | GCCATTATTG | CAGTAGCGGT | AGGCGGGCAT | ATGAAATGAG | ATCGCGGACG | 60 |
| | TCCTGCGCTT | GAGCACCTGA | AAAATGGCAG | TAAAAAGAAA | CGATCCCCGC | AACATTTGTT | 120 |
| | CGAGTGACTT | TTGAGGCAGA | AGTACAGGCT | TCAGCCCCGC | GCTGCTTTGC | TGTGGATTCA | 180 |
| | GACCACCGGT | GGTGAAGGTG | GTGGTACACT | GGGGTCAGCT | ATGCTCTCAC | GCTGCAGTCC | 240 |
| | AGGACAGACA | TACCGCCAC | TATAGCAGGC | CGATCACATA | CATAAGTAAG | AAAATTAGCC | 300 |
| | CCAGTAGATT | ATTGTCGGGG | TCATGCAGTG | CTGCACCATT | GCGTGATGTG | GTGTTGCCGG | 360 |
| | GTAGTCTGCC | ACCATCGTGA | TACCGGAGC | CGCCAGATCC | AACCGGAGGT | ATAAAAACTG | 420 |
| 25 | GTAATGGGAC | AAATCCGGGG | CCGCCCCGGC | CGCCGCTTCC | GCCCCCGTAA | GAAGGCAACC | 480 |
| | CCGGCCTTTG | CGCTCCTCCA | TTCGAGTCTT | TTGGGCTGTT | CGGTGGCGGC | TGTGCTCCGC | 540 |
| | CGTTTGGGCC | TTTAGGGCTG | TACGGCGGGC | GCTGTGCCCC | CCGTTCCGGT | CTTTCGGGCT | 600 |
| | GTACGGAGGC | GGTGCGCCTT | TCGGATCCTT | CGGGCTGTAC | GGAGGCGGTG | CTCCTTTCCG | 660 |

30 ATCCTTCGGG CTGTATGCCG GAAGAACACC CTGCGG

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1590RP

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|----|------------|------------|-------------|------------|------------|-------------|-----|
| | GATCATAATG | ATTTGTCTTA | ATTCTTTTCT | TAATTATTCA | TTAAATAATT | AATTAATATT | 60 |
| | TTATTAATAA | AAAATATTKA | KAKKKATGTT | CGTTTATGAT | AAATTCTAAA | ACTTTGSARC | 120 |
| 5 | ACGAACTGAA | GACAACTATG | TAACGCCCTGT | AATTAATTAT | AAATTATTAT | AATTAATATAT | 180 |
| | TCAAAAAATG | GTAAGATTTA | TCGAGGATTA | TCCAATTAAA | TAACATGTTC | CACTGCTTAA | 240 |
| | GTCTGTAACC | GTCTATTGTT | TTGATTTTTA | TTATTGCTAA | CGTAGTCATC | AGGCGGAATA | 300 |
| | CTTTAATTTT | CATTTAATTT | ATTCTTTAAT | TAATAAAAAA | TAAATAGGTA | TTCAATTGTTT | 360 |
| | ACTGCTAAAA | CTACTCGGGT | ATCGAATCCG | ATTGCTACT | TTAGCCTTCG | TTCCCTCAATG | 420 |
| | TCAATTAATA | TATAATTTAA | ATTTTCACCT | TATAAGTCTT | ATTCATATAA | TTATTATTTT | 480 |
| 10 | ATCTTTACTT | GAATAATTCT | TAAATTATTT | TTATTAATTC | TAATTATTAT | TTTAAATAAT | 540 |
| | CATTCTACGA | ACCCCTTAAG | CCATTACGAT | TAACGCTAAC | CCCCTTTGTC | TTACCGCAGC | 600 |
| | TGCTGGCACA | AATTTTGGTT | GGGATTATTT | AATTATATAT | | | |

1590UP

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|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCTATTAT | TAGAGGTAAT | ACATTTAAAC | TATTATCTAA | ATCTTCTTTC | TTCTTATTTA | 60 |
| | TTCTTAACIT | TATCTTATTA | GGTAAATTAG | GTGAATGTCA | TGTTGAAGTA | CCATTTATTT | 120 |
| | TAATAGGTCA | AATTTGTACA | TTTATTTAT | TTGCTTATTT | CTTAATCTTA | GTACCTATTA | 180 |
| | TTCTTATAAT | TGAAAAATAT | TTATTTTAT | TACTAAATAA | AAAATAATAA | TTAAATAAAT | 240 |
| 20 | AATAATAATA | TTCAATTAAAT | ACTTTAATAT | TAATATTTAT | ATATTATACT | TCCTTTATCAT | 300 |
| | TTATGAGGGT | ACCTCATATT | GCTGACTAGC | AATAGGGGGG | TGAACCCCTAC | GCACCTAAAT | 360 |
| | GATAAGAGTT | TATCATTAAA | TTATATACTA | TATATTATAA | GTAATATTATC | AAACCATATA | 420 |
| | TAAGGTATAT | ATATTAAGAA | AGTTTGAAGT | AGTGGTTTAA | AGTGTAAATAT | TTGAGCTATT | 480 |
| | ATAAATCTTT | ATGATTTTAT | AGGTTTGAAT | CCTATAACIT | TCGTATTAAA | TAATTTATTTA | 540 |
| | AAATAATTAA | AAATAGTTAA | TAATAATGAG | AACATGATGT | TGGTTTCAAT | TAAGCGCTAA | 600 |
| | CTAAGGACAT | TACACATGCG | AATCAAACGT | TAATATTATT | AATTAATAGT | ATTAATAAGT | 660 |
| 25 | GGTGTACTCG | TGAGTAAAAA | TTAAGAATAA | TGAACCTAAA | TTTAACTAAA | TAT | |

1591RP

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|----|-------------|------------|-------------|------------|-------------|-------------|-----|
| | GATCATAAGC | ATCTTTAGCT | CCACTATCCA | TGTCTGAAAT | TTGCAGCTGA | TAATAAAGTG | 60 |
| | GTTGTGTGGC | CGAGCGGTCT | AAGGCGCCTG | ATTCAAGTGT | ATGCTTACAG | CTGTTACAGT | 120 |
| | TGGACACTCA | GGTATCGTAA | GATGCAGGAG | TTGGAATCTC | CTCGCAACCA | ATTATTTTCT | 180 |
| | TTTTTTGGAG | TTCCAATGCA | ATATCAATTC | TACTGCTGCG | AAAAGGTCTC | GTCAGCAGAT | 240 |
| | AAAAGAATAT | AGAATATGTA | TATTTATATA | CAAGAAGCGT | TAACTGACTT | TTTATTGTTA | 300 |
| | TAATGCCATT | CGAAGAGATA | TCGCTTATTA | ACAGCAATAC | CCCCCTGCAG | GTCCCCGCCA | 360 |
| 35 | ACCGTTGTCC | AGTGATGCAA | AATATATACC | TCGCATGATA | AAGAAGGCCC | TTCAATATCAA | 420 |
| | ATGGCCCCAG | CATTAATATC | ACCGTTGCGG | CGGCCCTCAA | CCAAGTAGCC | ATCTTTATAT | 480 |
| | CTGACATATT | CCACGGCATT | CTCACTATGC | TCATCACCGC | CGCAAAACCA | ATGCTTCTTC | 540 |
| | TCTTGCCGGT | TGTAAACCTT | CACGTGTACCT | TCCTGGTTAG | CGACAACATAT | CTTATTCAAG | 600 |
| | TCAAAC TGCA | AACATGTAC | CGGGTGTTC | TACGAAAATG | TATCAGCCAA | TGTACCGGTA | 660 |
| | CGTAGATCCC | AGATCTAATG | CTGTTATCCA | AGGAACCACT | CACAAGGTTT | AGAGAATCAA | 720 |
| 40 | | | | | | | |

1591UP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCCCCAAT | GATCCCTCTC | CGGGCTACAA | CATCGAGCAG | CTCGCTAAAC | AGTGCAAGAA | 60 |
| | CAAGGACAGG | CTGGTGGAAC | TGCCTTATAC | TGTGAAGGGG | ATGGACCTCT | CCATGAGCGG | 120 |
| | TATTCTCGCC | CACATCGACT | CGCTCGCGAA | GGACCTATTT | CGTCGAAACA | CGAAGAACTA | 180 |
| | CAAGCTCTTC | GACCGCGAGA | CCGGCAAGCA | GCTCGTCACC | GTAGAGGACC | TGTGCTACTC | 240 |
| | CCTACAGGAG | CACCTGTTTG | CCATGCTCGT | GGAGATTACC | GAGCGTGCCA | TGGCACATGT | 300 |
| | GAACCTCTAAC | CAGGTGTTGA | TTGTGCGCGG | TGTGGGCTGC | AATGTCCGAC | TGCAGCAGAT | 360 |
| | GATGGCGAGT | ATGTGCCAGA | GCAGGGCCGA | CGGCCAAGTT | CATGCGACGG | ACGAGCGCTT | 420 |
| 50 | CTGTATTGAC | AACGGTGTCA | TGATTGTCACA | GGCTGGTCTA | CTTCAATATC | GCATGGGCGA | 480 |
| | TATAGTAAAA | GACTTCTCAG | AGACCGTTGT | CACGCAGAGG | TTCCGGACTG | ATGAGGTTTA | 540 |
| | CGTATCGTGG | CGCGACTAAG | TGTGTACCAA | GTTTAATAGA | AGTTTACCAG | CCCTAATATA | 600 |
| | GCTGTTAACC | ATCAGTGGCC | TCCGATCAGC | TGGTCCAGAA | CAGTAGTCGC | CGGTGGCTGT | 660 |
| | CACCAGCCTA | CGGGCCAGC | GCCAGGTATC | CTGTTTCG | | | |
| 55 | | | | | | | |

1592RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAGGAAC | TCGCAGACCT | TGGCTCTCTG | GTCGCCCTGC | AACTGGATGA | TCTCGCCCAT | 60 |
| | CTCGTCGTCC | TTGACCATGT | TGCCGTTGCA | GCCAAAGTCC | TTCCGCAAGA | CCTTCCAAGA | 120 |
| 5 | TGCGCTTGAG | GTCGTACTCC | TCGGGGATGC | CCTGCACGGT | GGTCAACGTT | TTTCTGCCGT | 180 |
| | TTCTCTGCTG | GATACGGATG | TGGATGTAGT | TGGAGGAGGA | GGCTTCGTCTG | TCGCGGGTGT | 240 |
| | CAGCAAAGGG | GTCGAACGAC | TTGAGGTTTT | CGATAGACAT | GGTGGCGGTG | GGGTGTGAGG | 300 |
| | TACAAGGTAA | GCAGAGAAAA | TTTTCAGCTG | TCCTTTTAAA | AGCGCGCACC | TCGCGTCTTG | 360 |
| | GAACGCATTG | GCTTATTTGT | GAACCATATT | CTTATCTGTA | TAGGTGTTAA | CCCGCATTTT | 420 |
| | TCTGCAATTG | CCCCTCTTTC | TTTGGCGTTG | GGACAACGCT | TCCTTTCAAA | CACACTTTCC | 480 |
| 10 | AGGAACTCCT | TTGTTTCCCT | GGGTAACACT | GTTCTTCTTC | GCTGTTTATC | TCCTGTTAGT | 540 |
| | AAGGCAGAGG | CTGGGATTAC | AATGAGACTC | GTCACACATA | CTTCACCTAG | CAGAACACTG | 600 |
| | CAAATCGCCT | GGATTGCTTG | AGCTGTTTCT | TCAATACYTG | ACATTTGAGT | TGTGGGGAGC | 660 |
| | GAGGAAAGA | | | | | | |

1592UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCACTTG | TTAACGTCGG | CGCCGCCAAT | CCTCATCCCT | CCATATGTAA | CCACAAGTGG | 60 |
| | TTTGTAATCCC | AACAATTGCA | GCTCAATPGC | CATCAAGTAC | GCGTATCCCC | CGCCTAGAGA | 120 |
| | ATGGCCAGTT | ATAATTACCT | CATAGTCTGG | ATGAGCATCA | TGTACTGGCT | TAAACGCGGA | 180 |
| 20 | ATAGATATCG | TTGTACGCCA | ACTTAAATTT | CTCATATACG | CCCGAGTGTA | CAAAGCAATC | 240 |
| | TCCCGTACAC | TTTCCAGCGC | CACTAAGTGG | CTGGTATGGA | ACCCGAGGAA | AAATGAAATC | 300 |
| | CACATCCCAA | TCTTGAATTG | TTACCGACCC | TCTAAATATG | ATCGAAATCT | GCTTAGCCGT | 360 |
| | GTCATTTTAT | GCTATCATGC | TATAACAGGA | AAACTGCCCG | CGGGTCATGT | CCGGATCAAA | 420 |
| | AAC'TTTAACT | ACTTGAGTCC | CTGTTGTTCC | ATGTACCACT | TACCGTCATG | AAAAGGGTCA | 480 |
| | GTGAGTATTA | AAGTATTCAC | GCAGTAAACG | CTGTTAGTGA | GATATGACAC | ATATTTCAAT | 540 |
| 25 | GTATCAAACA | TCTCATCAGA | GAAAGAATGG | ACATGAAGGA | AAAAAGGC | | |

1593RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCGAAATA | GACAACTCTG | CAACGGTGTC | CAAATGGCCC | AGCAACTTCC | AGGAATAAAC | 60 |
| 30 | ACAAGTAGAC | CATAGCATCC | AAGTACCTAT | GCTCCTCGCC | TTACTATGTC | TTTGGAATGC | 120 |
| | AAAGGACCAA | ACGTGCTGCA | AGACGGAGGG | AGAATTCTTC | AGAAGAATTA | CATTATACAG | 180 |
| | GCTCGAAGGT | GTGACAGCGA | ACCTATCATG | GTCTCTCTTT | GTCGGTTCTG | CCAAAAGAGA | 240 |
| | AGACCAGACC | TCTTCAAGGG | TGACTGCAAT | TCGTTGTCTA | AGGTGCGCCAG | TGACACGAAC | 300 |
| | AACCGCTTTT | CTGGGCAAGT | CAGCGAGTTT | TATCGTACTA | GTAACCCGGT | TATTTCCAC | 360 |
| | TAGGAGCAAT | GCATTCAAAT | AAGCAGCCCA | CAGTTCCCAA | TCAAATTCAC | TGGCATTCCC | 420 |
| 35 | ATCTGGAGGA | ACATTATATT | GGATTAACAG | ACTTTTGTAC | ATTTCCAATA | TAGTAACGCA | 480 |
| | TGTCCTCAAA | AATAGGGCAT | GTA/TGAAAT | CCACTTACGG | GAGGGCATGT | ATCCATCTTT | 540 |
| | GGTCAATATT | GTTACAGTAT | TAACGGCACT | TATAATATCT | TCCTTGGTAA | ACCGCGTAAT | 600 |
| | GTTAAATACA | GATGTTAAAA | TAGGATCATT | GGCGCAATCT | TCCACAACCT | GTATAAATGA | 660 |
| | GCTGCCATGT | CCATATATTT | CTTCTACAA | TTTGGGCTAA | AGTTGCCAAT | ATAGTACC | |

1593UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCGATCTG | TTGTAATTTG | GACACGGGGA | GCTGCAAGCA | GGGTAACGTA | TGAGGCGTGC | 60 |
| | TGTGGGGCCT | GGCGATGGCT | ATAGATAGGG | TCATACCACA | TCATCGGTTT | GGCGGGGTGG | 120 |
| 45 | TATAGCATTT | GGAGGACAGG | TTAGCCCGGA | GCCACAGCAT | AGACAGGTTT | ACGAGGCTTG | 180 |
| | CAGCAGAGGA | AAA/GATGGGC | AAGCGATTTG | ACTGGCAGCC | GACGGGGAGG | CTCGTGCGCG | 240 |
| | GCCGGATTAT | CCGGGCGTTT | TTGCCCTTGA | AGCGGCACCC | GCAGCAGCTG | CTGGACAACC | 300 |
| | CGAACTACAC | GAACCTGTAC | CCGGGGGATG | AGGTGTACAG | CTTTGAGGAG | ACGGCGGACG | 360 |
| | GGCGATGGTG | TCGCGTGTAC | CAGGTGGTCC | AACCGCTGCC | GGAGGACTTT | ATCTCGACCA | 420 |
| | TGAAGCGGTT | CTCGGACAAG | CTGCCGGAGG | AGCAGCACCG | CGTGGTGGTG | TGCCCCGAAGG | 480 |
| 50 | CGTTTGTGCA | CTGGTATGAC | GACGAAGTGG | TGACCTTTCC | GTTCTTGGAC | CTGCCGACG | 540 |
| | AGCGGGAGGT | GAAGCGGGAG | GTGGCGGAGA | CGGACGTGCC | GAGCCTGCAC | GACCTGCTGC | 600 |
| | ATAGGGACGA | CTTGGGGGAC | CTGGAGCTAT | TCCGGCAGCT | GCGGCGGACG | CG | |

1594RP

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|----|------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCAAGACT | GCCGAAGTGC | TAGTTTCTCG | CTTCATGAGG | TTTGGAAATCT | TGTCCACGAT | 60 |
| | GCGGGCGTTC | ACCAGGCGGT | TACGCAACTC | AAAGTCGTCA | TTAAAGTCGC | GAGCAAACCA | 120 |
| 5 | GTAGGAGGAT | TCTAGAAGAC | TGGTAAGCCG | GATGGCGTTT | TTGAAGGGTA | TTGCGTTTGC | 180 |
| | GAAGTTCTCA | TCCGCAAAGA | GCTCGCTAAG | CGACTCTATC | ATAAGCAGCT | GCAGGACACA | 240 |
| | TTTTACCACG | ATGGTATTCT | TAATACTTAC | ACGGTGCCCA | ATCTCCTCGC | TGCTTTTCGT | 300 |
| | GCGCACGAGT | CGGCTCATAG | GCTTATCCTC | TTCAGTACTG | GCGTTGCCAA | CATCCTCGCC | 360 |
| | CTTCTCCTCG | CGTTGGGCAC | GCTCGACTTC | CCGATCAACA | TCACTGGCAC | ATGATTGGGT | 420 |
| | TTCAGCAGTA | CCGTTGGTGT | TGATTGTGGC | TACTGATGGC | TTTCTTCCAC | GCTTCAATGG | 480 |
| 10 | ATCTGACTCA | AAAAGTTCTG | TGGCAGTGGT | AAGCTCAAAAT | AACCGGGCAA | ACGAGTTGGT | 540 |
| | AACCTGCTCC | CAATGCGTTG | TCCCGAACTT | GTTGGTGTTC | TGGATAATCA | ATTGCTGCAG | 600 |
| | ACAAGACCTA | CCAATCCTGG | CAATGGTGTG | ATTTTCTCTGA | CAGATGCAAG | AGACTAACAA | 660 |
| | AACCAGGAAG | CCATCCAACA | TTTCGTTTCAG | TGAATCAAAG | TAATGCGTAA | CAGGGC | |

1594UP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCTGAATT | TAAACGTGAG | ATACCCGTTT | TTCTGACAGA | GATATATTTC | CCTATATCTC | 60 |
| | ACATGAAATC | TTCTACTCCA | CATCAGAAGA | GGTATTTTTT | GAGTGTTATC | CAACGACTAT | 120 |
| | GCAATGACCC | GAGAACCTTA | ATTGAATTCT | ACCTAAATTA | TGACTGCGAC | AGTAGTATGC | 180 |
| 20 | CTAATATTGT | CGAGACTGTT | GTGGATTATT | TGACGCGACT | GGCGCTAACA | CGTGTGATA | 240 |
| | TCACCGCATC | ACAGCGTGCG | TACTATGATG | AACAAGTGAA | CAAACCCCTT | GCAACGTWTA | 300 |
| | AOCTATCGCA | GTTCGCTTTA | TTATCCATAT | CTAATGTTAG | CAGTATGTCT | GTTGCTCCAC | 360 |
| | AGCAACTCCA | ATTCCCGGTG | GAATTTGCGC | TTAAAAATGAC | CTCGTTGAAA | TGTATGTTGG | 420 |
| | CCGTGCTAAG | ATCACTAAAT | TCTTGGGCGG | ACAAGGCGAC | GGCTCCAAAT | GGCACATTAA | 480 |
| | ACCACAATAG | GGCATCTGTT | GGCTCCAGTA | CGATTGAAAG | GAAGCACTCT | TCGGCTTTTA | 540 |
| 25 | GCTCTTTTCAG | TCACACTATG | AACACAACAC | CTGTAGGAGA | CCAGAATAGT | GTCCAACAAT | 600 |
| | CGGAAGCGAG | TGAGGATATT | GATGATCCCA | CACAGTTTGA | AAATTTGAAG | TTAAGGAAAA | 660 |
| | CAGAACTGCA | AAAATGTATT | CGGTTATTCA | ACTTC | | | |

1595RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTTGCTG | CTATCCAGAA | ATGGGAAGTT | CTTAGACAAC | GGGGAATTAA | GCCCCTTTTT | 60 |
| | CAATATTTTG | AGCGTCTGTT | CATAGCTCGG | AAGACGCAGC | AGAAGCCCCC | CCAGTAGTGT | 120 |
| | CTGTTTATGT | TCGCTCATGA | AAGGTGTCTC | TATCAAATCT | AGCTCCATCA | TCGCAGAGTA | 180 |
| | GTTATTTATCT | TTCTTCCAAG | ACAGACGCAC | ATGCCGCAAC | TTGCTCAGGA | TTACAGTAAA | 240 |
| | ATAATGGTAG | AACCGCGGAC | TCACAGAAGC | GACGACCGCT | CGAAATGAAG | TCGGCCCGTA | 300 |
| 35 | GAAGATCGTG | CGGCCCTGCT | TCTCTATCAC | AAGATGGAAC | TGCGAAAGTC | TGTTACGGGG | 360 |
| | GGACACCGTG | CCCATAACGT | GCTTCTGCAT | GAACAGCTGC | GGTACCATCT | CGCTCTTCAT | 420 |
| | CCGCGCGAGC | TCAGTCTCAA | GCTCGTCGAT | CCGTGCGCAG | AGCTCCACAT | TGGGCGTCCA | 480 |
| | GCTGAACAGC | TCCCGTGAGT | TCACGTCTGT | CGTAAACTCA | GACAGGTACA | CACACTCGGG | 540 |
| | CAGGCCTTCC | CAATACATGT | AGAGCACTTC | GGCCGCGCCT | TGTTGCACTT | GACGCGCCGC | 600 |
| | TTGCGGCAGA | ACACGCACGA | CTTGCTGACC | TTCCGCTGG | TTTTTCACAAT | CTTGCCATCG | 660 |
| 40 | GACTCTGCCA | TCCC GCCAGC | TTCAAGCAAA | ATGAGTAGGC | TATATTATT | | |

1595UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCGGAC | GTGGAGCACT | GGCCGGAGAT | GCGCGCGGCC | ATCCTGGTGG | TTTCTGCGGA | 60 |
| 45 | CCGCAAGGGA | CACGCCATCG | ACGAGCGGTA | TGCAGCAGAC | GGTGACACG | TCGGACCTCT | 120 |
| | TCAAGGAGCG | CGTCGCGACG | GTGGTGCCGC | GGCGGTACGG | AGAGATGGCG | GCGGCGATCC | 180 |
| | GCGCGCGCGA | CTTCGCGACG | TTTGCGCGCC | TGACGATGCA | GGACTCGAAC | TCGTTTCACG | 240 |
| | CCACCTGCCT | GGACTCATTT | CCGCCGATCT | TCTACATGAA | CGACACTTCC | CGCCGGATTG | 300 |
| | TCAAGCTGTG | TCATCTGATC | AACGAGTTCT | ACAACGAGAC | CATCGTGGCG | TACACGTTTG | 360 |
| | ACGCGGGTCC | GAACGCGGTG | CTCTATTACT | TGGCGGAGAA | CGAGGCGCGG | CTCTGCGGCT | 420 |
| 50 | TCCTCTCTGC | CGTCTTTGGC | GCCAAACGAC | GCTGGGAGAC | CACGTTCTCG | ACGGAGCAGC | 480 |
| | GCGCCACCTT | CGCCGCGCAG | TTCGACGAGT | GCGTGCGCGG | CAAGCTTGCG | ACGGACCTGG | 540 |
| | ACGACGAATT | GCACAGAAGA | ATTGCCCGCC | TCATCTTCAC | GAAGGTGCGG | CCAGGGCCCA | 600 |
| | GGACACTAAA | TCCTCGCTCA | TCGACCCGAG | ACGGGCTGAC | CCCGCTGACG | CTATTCTCCT | 660 |
| | GCTATTTTCT | GCTCTGTATA | CCCTGCCAGA | CGCGCTATAT | ATATAQAATA | TGCATTGCGA | 720 |
| 55 | CGCTTACGCT | T | | | | | |

1596RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGACAAT | CTGAGCGAAA | TATTTAGCAC | GACATGCTAC | ATGGGCTCTA | CGGTGATAGT | 60 |
| | ATGGGAGTGG | AGCAACCGGC | TGTCCATACT | GGAGGCCAGG | CGCCAGGCGC | AGAGCATTCT | 120 |
| 5 | GGGGCGGCCG | GTGTATGAGG | ACGAGGAGCA | GGGGTACAA | TTTGC GCGAT | ATGCGCTGAA | 180 |
| | GATTTCAGACC | GCATTGACCA | GCAAGTCAGA | TGAAGGCGAG | ACCAATCAG | CGACTACCTT | 240 |
| | TGCTGCACCG | AGATCTGCGC | GCTTCAAGG | GAAAGGCGGG | CCCCAATCCC | CAGTCTATGT | 300 |
| | TCAAGAGGGC | GAACAGCAGG | CCGTCAATGG | ATTCAATAAG | CGAATGGGCA | CTCGAGCGTT | 360 |
| | GGCACATCAT | GTGCTGGATA | GCATCATATA | CTACACAGAC | AAGGTGGTGG | TGAAGGGGCT | 420 |
| | TGGAAATTTG | TCCGCGAGCT | TACCTTCCAA | GACCTCCCTG | GCGACAAGCG | TCAGGGGTCG | 480 |
| 10 | TGTAAGGAAA | CGCATTTGGTC | TCGAAGGCGC | AAATGATGTC | TTTGTATACC | GCACAAAAGA | 540 |
| | CCTGGTATTTC | GATAGTGATG | AAGATATACC | CAGAACCTAA | CTACTTGTGT | CGATATTTCT | 600 |
| | CACACCGCCT | GGTGCGGAAC | CGGGGGCATA | CATTCGTTTT | ACACAAGAGG | GGTTGATGCA | 660 |
| | TAAAACGCGC | TT | | | | | |

1596UP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCTTCGTA | TCCATGTGCG | AAAGCTCCTC | CAAAATCTTT | TCGTCTCCAT | CATGAGAGGC | 60 |
| | TGCTACAGCT | TTTGAGCCGA | TAGAATTGGA | AATACCATTT | GAGATTGCTA | TTAGTAGGAA | 120 |
| | GACAAATATA | GTACCATCTG | TCGATGGGGC | AGAGGCTTTA | TCAGAAGGT | CCATCAGCTT | 180 |
| 20 | GTTCTTGGAT | ACAGCAGTCT | CATTTAATAA | TAATGCCCTG | TCACCACTGG | GCAAAAATTC | 240 |
| | AGAAACATTG | AGCAGTTTCA | AGAGTGAGTT | CGACTCAAAG | TTTTCGGTCA | TTGTCTCTAA | 300 |
| | CAAGACAAAA | ACAACGTCCT | TCCTGCTCTC | ATGAACATCA | TAAGCCTTGA | AAACCTCGAG | 360 |
| | CAAAATAGTA | TTGTCCTGGA | TCACGTTCAA | AAATACCTCT | AGAATTAAATG | CCTTCCTCCA | 420 |
| | CAATAAAGTG | TCAGATTTAG | GAGACAGAGT | GTGGATTAAAT | AATGATAAAA | TAACTTCCAA | 480 |
| | TTCCAATTCC | AGCAATGTCA | AATACTGAAC | CTTTATGAGA | ATGTAATACA | TCGGGCGCTA | 540 |
| 25 | CGAACCACAA | TTGCAAAATT | TTTGGATGAG | GAAATGTACC | TCAATAGCAG | CGGCACCGCC | 600 |
| | TTTGTTCGCA | ACAGAAATAA | CAGATCTCGG | TGTGTCAAAA | ATAATAATTC | ATAGTTCAAT | 660 |
| | AAAACCAGTT | CTAGGAGCTC | TAATCCATAC | TCCTCATTTA | TGCAATTGCT | ATCCAGCAAT | 720 |
| | GT | | | | | | |

1597RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCATCAG | CGCGGCTACG | GAAATCCTGC | CCATAGAATG | ACTCTCCAAA | CCCCCTGAA | 60 |
| | CTATCAGCAA | AAGCTCAACA | GCATRCACGG | GTCGCATGCC | CAGCAAAAAC | AGATCCAGCG | 120 |
| | TCAGATAAGC | GCTGCCARCG | CACCTCGATG | CGGGAATACC | ATCACCAGCA | TGGTCCAGCA | 180 |
| | TTTGATGCCC | AGAAGAAAG | ACCAGCCACC | CGAGCAACAG | GGACCCATAG | GCTCTCCGCC | 240 |
| 35 | AAACTCTGGC | AACAGCTCCA | CGTACGGCGG | CAGCCCTGCT | GCCACCGCGC | CGTCTGCATC | 300 |
| | CGTAAATGCT | CCCGCCGCGG | ATGACGGCCA | AAACGCTGTG | CCACAGCCGC | ACAGCGCCCC | 360 |
| | TGGCGTATCC | GCTAACGGTA | ACACAGCCCC | TATGTGGGGA | AACCTCGGTA | GCCTTAGTAA | 420 |
| | TGGCTCATCA | GCAGGGCCCG | GTTTGTCAAC | ACAGTCAAAC | TCTCTGGACT | GGAAGCAGAC | 480 |
| | ACCGCCAAGC | AGTGGCGGAA | GCGTAACCGA | AAGAAAGCCA | AAGCTCGCTC | TATTCGCTAA | 540 |
| | GAAAAAATAA | TATCATGCGA | CCTATCATTT | ACACATATTC | TAACGTTCCA | CCTGTGTTAG | 600 |
| 40 | TGTACTCATT | TAATTAATTC | ATTAGTGCTG | CCACTGCTGC | AGACATGTGG | CAAGAGGCAA | 660 |
| | AAATGGTTCC | TAGCGGGATC | GAACCGCT | | | | |

1597UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGGCA | GCCGTACCGT | CTTTTGGTAC | GCATGCGCAG | AGTACTGCCG | GATACAGCGC | 60 |
| | AACATCTTAC | GCTGACTACA | GTTCTTGGAC | ACACCACCTT | ACAGCTTTGG | GCCTGCGTTA | 120 |
| | TTGGTGCTCG | AAGATATGAT | GTTCCGGAAT | TTTCACTCGC | CGTCCGGCCT | GATGAAACTG | 180 |
| | GAAGACAAGA | CCTACAGTCA | TCTAGCCAAC | ATAACGCCCT | GTAGTCGGGC | TCTCGAACC | 240 |
| | AGCGTAGAGC | GTAGGAGATG | CTCCACGCGC | CCCCGGTGGT | ACAGAGAAGA | ACAAGACCGC | 300 |
| | CGGCATTCTT | TTTATTTACT | TGATTAAACT | CTTGGCCAGT | CTGGTTTCCA | CTGACAAAGT | 360 |
| 50 | CCCCACCAGA | TGGATTGCGG | GCGCGGTGAT | CCTGCCCCGG | CGATAGCGGG | CGACCGGAGC | 420 |
| | TTGCGTGGGT | TTACCTGCA | TCTGCACAAG | ATGTTGCTAC | GGCGTAGAAG | CAGCGCGTGG | 480 |
| | GAGGCGCAGC | GCGCGCAAA | AGGACGTGAG | TCTGACGCGC | TACTTCGCCC | GCGCTGCTGC | 540 |
| | ACGGCTGAA | TTGGGCTCCC | GGCAAGTCCT | GATTGCTACG | TTGAGTCAAT | GTCTCAGTAA | 600 |
| | TTATCGCATG | GTGTTACTGG | CGTTGCACGT | GACCACACTG | TGGCGTCCCT | TTGGCCCA | 660 |
| 55 | GATGAACCTG | CCATCAGCTC | TCCGCCAGGA | CGGTCACAAC | AGGCAGCACT | AC | |

1598RP

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|----|-------------|-------------|------------|------------|-------------|------------|-----|
| | GATCCTCATA | ATCATAGTAC | AATATCATT | CCAATAAATG | GAATAGCACT | AAATAAATTA | 60 |
| | GTAATAACAG | TAGCACCTCA | ATGTGACATT | TGTCCATATA | CTAAACAATA | ACCTAAGAAA | 120 |
| 5 | GCTGCTGCTA | TAGTTAAAAT | AAAGATAATA | ACACCAACTG | TTCATACAAT | AACCTAGGT | 180 |
| | GATTTATAAG | AACCATAATA | TAAACCTTTA | CCAATATGAA | TATACATACA | AATAAAGAAG | 240 |
| | AATGAAGCAC | CATTAAAGATG | CATATATCTA | ATTAATCAAC | CTAGTTGTAC | ATCTCTCATA | 300 |
| | ATATGTTCTA | CTGATGAGAA | AGCTAATTCA | ATATTAGATG | AATAATGCAT | AGCTAAAAAA | 360 |
| | ATACCAGTAA | GAATTTGAAT | AACTAAACAT | AAACCTAATA | AAGAACCCTAA | ATTCATCAA | 420 |
| | TAATTAATTG | ATGATGGTTG | AGGTGAATCA | ATAACATAAC | TATTAACCTAA | ATTTAAATAT | 480 |
| 10 | AAATTTGATT | TTCTATATGC | CATATATTTT | ATTATTAAAA | TATTATTAAA | TTATTATTTA | 540 |
| | ATAAATATTA | GATTATAATA | TAATTCTTTA | TAATAAATTA | TATTATTTAA | TTAATATATT | 600 |
| | AATTTATTAT | TTATTATTTA | TTAATATTTA | TATAATCTTT | ATAGGGAATT | GAACCTAATA | 660 |
| | AACCATTAAAG | ATTTAATTAT | TTAATTATTT | AATTTATTTA | ATTATTTAAT | TTATAAATTA | 720 |
| | TTAATTAGAG | AGATAAGGGT | | | | | |

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1598UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTTATCG | TCTAATGGTT | ACGACATCAT | CTCTTCATGT | TGAAAATATC | GGTTCAATTC | 60 |
| | CGATTAAGAT | TATTAATATA | TTTTAATAAT | TATTATAATT | AACAATATTA | ATTAGAGGGG | 120 |
| 20 | TACCAACATA | TTGCTAACTA | GCAATAGGGG | TGTGTACCTT | ATCTCTCTAA | TTAATAATTT | 180 |
| | ATAAATTAAA | TAATTAATA | AATTAAATAA | TAAATAAATT | AAATCTTAAT | GGTTTATTAG | 240 |
| | GTTCAATTCC | TATAAAGATT | ATATAAATAT | TAATAAATAA | TAAATAATAA | ATTAATATAT | 300 |
| | TAATTTAAATA | ATATAATTTA | TTATAAAGAA | TTATATTATA | ATCTAATATT | TATTAAATAA | 360 |
| | TAATTTAATA | ATATTTTAAT | AATAAAATAT | ATGGCATATA | GAAAATCAAA | TTTATATTTA | 420 |
| | AATTTAGTTA | ATAGTTATGT | TATTGATTCA | CCTCAACCAT | CATCAATTAA | TTATTGATGA | 480 |
| 25 | AATTTAGGTT | CTTTATTAGG | TTTATGTTTA | GTTATTCAAA | TTCTTACTGG | TATTTTTTTA | 540 |
| | GCTATGCATT | ATTCATCTAA | TATTGAATTA | GCTTTCTCAT | CAGTAGAACA | TATTATGAGA | 600 |
| | GATGTTCAAC | TAGGTTGATT | AATTAGATAT | ATGCATCTTA | ATGGTGCTTC | ATTCTTCTTT | 660 |
| | ATTTGTATGT | ATATTCATAT | TGGGTAA | | | | |

1600RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAAAAG | AATCCATGTA | TGTACACATA | TTACGGAGGG | TTAAGGTGAC | GAACGGTAGC | 60 |
| | TACAGGCCTA | TAAATCTGGG | TTCTTTTGCA | AAAGTTCATG | CAACTCATCT | GGGACGTGTC | 120 |
| | GCCAGTCTTC | GGCAATCCAT | TTCTTTATCC | TATCTTCATC | GGCCTGTGCT | AGTATATCTA | 180 |
| | CTTCAAGAGA | GCTCCTGGCA | CATGTAAAA | TGCCAGCGGG | AGAGAGGAGA | GGCGAAGATT | 240 |
| 35 | CTTGAGTGGG | GTAAGAACT | TGTTTTGATG | GTATGCTGCT | AGCCATCTTC | TTCCGTCTGT | 300 |
| | GTTCCTTACC | GTGTGTTAAT | GATACTCCGA | TATAATGTTT | TATTAACCTC | TCTGCGTATG | 360 |
| | GGGCAAGTT | TTTGGGCCTG | TAGTCGCCCA | CATATTTGCA | CCTCCAGTAT | ACAGACCAAT | 420 |
| | GTAGTTCACC | ATATGCCGGG | ATGTTCTTAT | GTCTACCAAG | GTTAGGCACA | TAAACGTTTT | 480 |
| | TCCAATGGCA | ATTTTTATCT | TCAATCCTTA | TGCCGATGAA | CATCATTTC | ACTATCCACC | 540 |
| 40 | AGGCAATGAA | CTGAAATATA | CTCTTTGTTT | CATGTCCATC | GTTCTTTGCT | GGCCGGATTA | 600 |
| | TACATCTCCG | GAAGGAAGGC | CTGGG | | | | |

1600UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCAAGCAG | CTACTGCTCA | CCTGGAAGAA | GCAGGGCCAC | AAGGCCCTGC | TCTTCACCCA | 60 |
| 45 | GTCCAGGCAG | ATGCTCGACA | TCCTGGAGGC | CTACATCTCG | CACAAAGATC | CCGAGCTGGC | 120 |
| | AGGCCTACAG | TACCTCCGGA | TGGACGGAAC | CACAAACATC | GCACACCGGC | AGGCCCTCGT | 180 |
| | GGACCGTTTC | AACAACGGCC | CGTACCACCT | CTTCTCTCTG | ACCACCCGCG | TGGGGGGCCT | 240 |
| | CGGCGTCAAC | CTCACGGGCG | CGAACAGAAT | CATCATCTTC | GACCCGCACT | GGAACCCCTC | 300 |
| | CACGACCTG | CAGGCCCGCG | AGCGCGCCTG | GCGCATAGGC | CAGAAAGCGG | ACGTGACTAT | 360 |
| 50 | CTACCTGCTC | ATGGTCCGCC | GCTCCATCGA | GGAGAAGATA | TACCACCGCC | AGATCTTCAA | 420 |
| | GCAGTTTCTC | ACCAACAAGG | TCCTCAGCGA | CCCCAAGCAG | AAGCGCTTCT | TCAAGATGAA | 480 |
| | CGAGCTGCAC | GACCTCTTCT | CCTTCGGCCC | GGGCGCCGCC | AGCGACTCCT | TTGCCCTCTGA | 540 |
| | GATCGAGCAG | CAGACCGCCT | CCCTCCGCCG | CCAGCCCGCC | GCCCACGGCA | CCGACGACTA | 600 |
| | CGACTCCGTC | CAGCGTTTTCG | AGGCGCTCTC | CAAGCTGGAG | GGCTTCTTCA | ACGCCA | |

55

1601RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCTTTTTC | CCCCGCAAAAC | CGCACACCTC | GTTCCAGGGG | TACTTGGGCA | ACAAAAAGGC | 60 |
| | GACGGAGAGC | AAGGTTCTAC | GCGATGTTTT | CAGGAAGGGA | GATGCATGGT | ACCGGTCAGG | 120 |
| 5 | CGATCTCTTG | AAATCCGACA | AGTACGGGCA | ATGGTACTTC | GTGGACCGGA | TGGGTGATAC | 180 |
| | GTACCCGGTG | AAATCCGAAA | ATGTCTCGAC | TACCGAGGTG | GAGAATCAGT | TGCTCTCGTT | 240 |
| | CAACAAGGAC | CTCTTTGACT | GTTTGGTTGT | AGTGGGCTTG | AAGATTCCAA | GCTACGAGGG | 300 |
| | TAGAGCCGGG | TTTGCTGTTA | TCCAACCTGAA | TCCAGCGCGC | CGCGGACTGG | ACCATGCCAG | 360 |
| | TTTGTTAGAC | GACCTTGTCG | AGTATTTGAA | ACATGCTCTT | CCTCGGTACG | CCTTGCCGCT | 420 |
| | GTTCATCAAG | TTCACAAAAC | AGCTGGAAAC | AACCGATAAC | TATAAGTTCC | CCAAGAAACA | 480 |
| 10 | GTACAAAAAC | CAGCAGTTGC | CTCATGGTGC | GGATGGGGAC | GAGACAATTT | ACTGGTTAAA | 540 |
| | AGACTACTCC | CAGTACAAAG | TCTTGACCGA | CGAGGACTGG | GAGCAGATAT | CAACCGGAAA | 600 |
| | GGCAAAGCTT | TAGACCAGAC | AATGCCGGGA | TTGACACCGG | TAGGGAGTTC | AAAAATAAAA | 660 |
| | AAATACCTGG | GAAGCCATCC | ATAAAAGCCA | TTATCAACTA | TAGAAATAGA | AAAGT | |

1601UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCCCTG | TCCCGGGACG | GAGAGCGGGC | GCTGCGCTAG | CATAAAAGCA | CGCAGGTCAC | 60 |
| | TGTGCATGAA | ACTCGAATCG | AACGCCGTAC | TCGATGGTAG | AACTAAACGG | GCTCCGCTTC | 120 |
| | GAAGTACGCA | CAGTTGAGTG | AAATGTCAGT | GTCGGCGCAA | CGCGCCCAAG | AGCAGAATAG | 180 |
| 20 | CATGGACATC | GAACAGAGGT | CATCGCAGCC | GAGTCGAAGC | AACAGCCATG | CAGGATCGCC | 240 |
| | GGGGTACGAA | AAAGTGCAGC | CGCTGTATGC | CGCAGAGAAC | GGTTCCACGG | AGACTGCCCC | 300 |
| | GACAGCCACC | GGGCTGTTTG | ATAGCTCGCA | CGTTGTACCG | GTGTCGCAAC | GGCGCGGACT | 360 |
| | GCTGAGTAGG | CTGGCGCTTG | TGCCCGAATT | CCGGGACGCA | CGTCTCTATC | CCCCGCGGGT | 420 |
| | CAAAAAGCTG | ATCCTGGTCA | TCGTGCGCTT | TGCATGTATT | CTGGGTCCCA | TGGGGACCAA | 480 |
| | CATCATCTAT | CCTGCGATCG | GGACTATCAT | GCAGGATTTT | GGCACTTCGC | GGTTTCTGGT | 540 |
| | CAGTGTGTCT | GTAGGCACCT | ACCTCGCTGC | GCTGGGCATC | TTCCCCATCT | GGTGGTCGTC | 600 |
| 25 | GCTGGCGGAC | AAAAACGGCC | GCCGAACAGT | GTACGTGCTG | TCGTTCCGCG | TGCTGGTGGT | 660 |
| | GTTACAGCGT | GGGCACGGCT | TCTCGCGCAA | CATCGAGAC | | | |

1602RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 30 | GATCCAAGCG | CCCGCACAAAC | CAGCGATGTT | TGCAACATAT | TCGGCTAGTA | TTCTCCGTTT | 60 |
| | GACTTTACCC | CTGCGTAGCG | TTGGCGTCAG | ACTGCTGAGC | CAGGAAACTC | GGCGGGCCAT | 120 |
| | TGAGGGCGCC | ATTTCCCTCG | CCCCAGTGGT | TCTGTTTATG | AAGGGCACCC | CAGAGTTCCC | 180 |
| | TCAATGTGGC | TTTTCGAAGG | CCGCCATTGA | GATCCTGGGC | AGACAGGGCG | TGGATCTCTG | 240 |
| | GAAGTTTGCG | GCGTTCAACG | TGCTGGAGGA | TTCTGAGCTG | CGGAGCGGGA | TAAAGGAATA | 300 |
| 35 | TTCCGAGTGG | CCTACAATTC | CACAGCTCTA | CGTCAACAAG | GAATTTGTTG | GGGGGTGCGA | 360 |
| | CATCCTCACC | AACATGGCGC | AATCCGGCGA | GCTAACTACT | ATGCTCGAGG | AGGCATCCGT | 420 |
| | TCTTGTTGCC | GATACTGAGT | GATGCCGCGT | ACGGCTCCCG | ACTATATTTA | TAGGAATACA | 480 |
| | GCTTGTAATT | TACGACTTGT | ATTCTCATGC | CTTTAGACTT | GTAAATCATG | GTTGTTTAAT | 540 |
| | TCACAAACTC | CGTTCTTTCA | GTGAAAGAA | GTGAGAACAG | CTTGCTTTCC | GTCATGTGTG | 600 |
| | AAAGAGGCTT | CTGATGGAGG | AGGCGTGCAC | ACGCCAGCAG | AGAAAGTCTC | TCAAAAAATG | 660 |
| 40 | ACGTTCTAGT | GGAAGGGCGG | ACGCAATCAC | CCTTGAATGC | GCGA | | |

1602UP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|-----|
| 45 | GATCGTGCCC | GGGCTTGTGC | TTGTGCCCCAG | AGTTGTGCTT | GTGCCCAGGC | TTTTGTCTCG | 60 |
| | TGCCTCCGTC | GCTGCCCGCG | GGGTAGTACA | CGCCGAACTG | CTTCAGCCGC | AGCGGGCCGC | 120 |
| | GGAAGTGCAC | CGTCAGCTCC | TGGTCCAGCG | GAGAGAGACT | GCCCGAGAAC | TCCAATTTTC | 180 |
| | TCTGCTTACA | CTTGCACTC | TTCTCGTCCA | TGCTGGTGAC | GTCCAGGTAC | GTGCCGCTGT | 240 |
| | AGCCACATT | GGCATAACCG | ATATTTCTCG | CCTTCGAGCA | GTAATAATTC | CCTCCGATGA | 300 |
| | AATCACAATC | GCCCAGCAC | TGCTGCGCAG | CGAGCAGGCC | ACCTGCAACG | ACTGTCGACA | 360 |
| 50 | GCTTCATAAT | TTGTAAACGC | TTGTAAAAGA | ATGACTAGTA | GTTAGAACAG | ATAAAAGAGT | 420 |
| | GCTTTGCTGT | GTGCGCTGTC | GCCCCTCCAC | GCCTTCCGAG | CTCACC CGCC | TTCTTA | |

1603RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCGGCAA | GATCGTCGTT | CAGTTGACCG | GCAGATTGAA | CAAGTGCGGT | GTCATCTCTC | 60 |
| | CAAGATTCAA | CGTCAAGATC | AACGACGTCG | AGAAGTGGAC | TGCCAACCTA | TGCCAGCCA | 120 |
| 5 | GACAGTTCCG | CTACGTCATC | TTGACCACCT | CCGCCGGCAT | TATGGACCAC | GAGGAGGCC | 180 |
| | ACAGAAAGCA | CGTTGCTGGT | AAGATTTTGG | GTMTTGTCTA | CTAAGCGGCT | GCTATATAGC | 240 |
| | GTATCTAGCT | CTAATGTACG | ATACTCAGTG | TCTATTACGA | CGGCCGCGAG | CTCCACGCGC | 300 |
| | CACATACGAG | GCCAGCCGGC | GACGGCAAGC | GGGAATTCAG | ATGCGTTAAT | TAGCAGTAGA | 360 |
| | TTAGTAGTAT | ATATGTACAA | ACAGCATACA | CATGAACGGC | GTCGCCGATC | ATAATCTTCT | 420 |
| | ACCTCTTCTA | CCACCCCTCT | TTCTGGTAGA | GTCGGATGGG | ATAGGAGTGA | CGTCCTCGAT | 480 |
| 10 | ACGGCCGATT | CTCAAGCCGG | ATCTGGCCAA | AGCTCTCAAA | GCAGCCTGAC | CACCTGGACC | 540 |
| | TGGGGTCTTG | GTCTTGGTAC | CACCGGTAGC | TCTGATCTTG | ACGTGCACAG | CAGTGATGCC | 600 |
| | GACCTCCTTA | CACCTGGCAG | CGACGTCCTG | AGCAGCCAAC | ATGGCAGCGT | ATGGAGAGGA | 660 |
| | CTCGTCTCTG | TCCGGCCTGA | ACTTCATACC | ACCGGTAAC | CTGGCAATAG | TTCTCTGCCA | 720 |
| | GACA | | | | | | |

1603UP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTATTTG | TGCCGTCCGC | CATTAAGCAA | GCGGCAAGCA | TCGATCCAA | TCATGAGAGT | 60 |
| | ACCTTCGGGC | TTTCACTTTC | CAAGCCTTTA | TCAACAAATC | TGGTACACGA | TACATCCATC | 120 |
| 20 | GCGACAGCAC | ATATACCAGA | ACGGGAAAGC | CGACAAGATG | GCACTAGACT | CTGGTAGGTA | 180 |
| | ATCTGAGTTC | GACCATATCC | ACTTCGTTAA | TGGTGATAGT | TGATAAAAG | AAACGATACT | 240 |
| | GAAAATTTTA | ATGGTTACCA | ATCTCATCTC | ATCGCCATAC | TGAAAGAATA | TTGTAGGTCT | 300 |
| | CGCAGTGGAA | CAAGGATCAA | GCCCAGGCTA | AGACAATAAT | GGTTGCAGCG | GAGGCAGTAC | 360 |
| | AGGAACTACC | CCCAGATGAA | GAAGAACTGG | CCTTGCTCTA | GCTAGTGTTC | GGCGACACAG | 420 |
| | CAGACTTCCA | TGAAGCGCTG | CGAAATGCAG | ACCTTAATTA | TGTTTCTTCA | GATGAAGACG | 480 |
| | TATATGGCCA | GGAGTCGTCC | AGTGATGACG | AAGAGGGGAC | TGAAATTTGGT | CACCTGAATG | 540 |
| 25 | ATGACCAATT | GTMTTGTG | GACGAGGGTG | CAGATACCGA | GGGAGGAGCA | GATGGAGAAC | 600 |
| | GGAGGCCATG | GAGGTGGACC | AGGTAGCGA | GGAAAGCGAC | TCCGGAGAGG | AAAGCGGTAG | 660 |
| | CAGCGCTGCA | TGGTCAGATT | CGGATGACGA | ACACTTAAAC | GTTACAATAG | GGCAAACCAA | 720 |
| | T | | | | | | |

1604RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCCTATT | AGAAGAGGTT | ACTGGGGCTC | CAACCTTGGT | CAGCCACACT | CTCTAGCCAC | 60 |
| | GAAGACCTCT | GGTAAGTCTG | GTTCCGTCAC | TGTGCGTTTG | ATCCCTGCCC | CACGTGGTTC | 120 |
| | CGGTATCGTC | GCCTCTCCAG | CTGTCAAGAA | GCTTCTACAG | CTTGCTGGTG | TCGAGGATGT | 180 |
| 35 | GTACACTTCC | TCCACCGGTT | CTACCCGTAC | CCTAGAGAAC | ACCTTGAAGG | CTGCCTTCGT | 240 |
| | TGCCATTGGT | AACACCTACG | GTTTCTTGAC | CCCAGACTTG | TGGCCAGAGA | ACCAGTTGCC | 300 |
| | AGCTTCTCCT | CTAGACGTCT | ACGCCGACGA | GGCCGTTGCC | CAGAAGAAGA | GATTCTAAGT | 360 |
| | AGTGTGTGTA | CATACCAACA | GTTTGTCTCT | TTGCACGTGA | ACCGCCCGCC | TAAGCCTTTA | 420 |
| | GGCGCATGGC | ACACAGACTG | CCGTTGGGCA | GGAGATCGGT | TGTCTTCCGA | CGCTGGTACA | 480 |
| | GGGCTGCGAT | GCGCGTCTGC | GGCTGGCGGT | GCATATCGGA | GATATGGCGC | CGTGCCCGTA | 540 |
| 40 | CGGCAAGAA | TCAGCAAGAC | ACTAGCGTCT | GGCATTCCTT | TTCAATGCAT | TATTTAGCTT | 600 |
| | TTTTTTTTTT | TTTTTTTTTA | GTATAGACAC | ATATAAGT | | | |

1604UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGAGCA | TCCGATGAGG | TGGCACCAGC | CGCGTCCGCT | GTGTCTTTCT | TCGCGGTATC | 60 |
| 45 | GGCTTCCGAA | ATACTTAGCT | TCTCAATACT | TGGGACTGCC | TTATCTTCAG | AGGAAGCGGT | 120 |
| | AGCATCTCA | CTCTTAGGAG | CGCCCTCTGC | GCTGCTCTTA | GGCTCCTCCT | TTGTTGGCTC | 180 |
| | CTCCGCCTTA | GCCTCTTCTT | TCTTCGCGAC | AGGTTTCTTA | GCACCAACTA | GCTTGATACC | 240 |
| | GGAGCTGGAA | GCCAACTTGA | GGGTCTTCTT | TGGTTTGGGA | GCAGTCGCAT | TCGGCACAGT | 300 |
| | TCCCTTCTCA | AAGTTGTTCA | GCGTCACCGG | AGCGGTGGCT | GACTGGCCCT | GTCCGTAACC | 360 |
| 50 | ATAGCTCTGG | TTCCCTTAC | GGTCCCCTTG | TGGCTGTGAG | TTGTACTGCT | TGTAGCTCTG | 420 |
| | ATACCCACCT | TGCGCATTTG | ATTGCTGGTA | ACCTTGGTAG | CCAGCTTGTG | CTGGGTTGTA | 480 |
| | CTGCTGGTAT | CCCTGATAAC | CCTGGTACCC | GCCGCGTTGC | TGGTTGTATT | GCGCATAGCC | 540 |
| | TTGGTACCCA | CCTGCCCTGT | GGCCATACCG | CTGGTAACCT | CCCTGAGGCA | CATACCCCTG | 600 |
| | GTAATCTGG | AAGTTACTTG | GTTTGTAGTA | TTGGCCGAAA | TTTGCTGCCC | CTGACCTTGA | 660 |
| 55 | TTTTGACCTT | GATCCTTGGC | TTGCGACTGG | CCTTGGTCTG | TGCCTTGGCA | | |

1605RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTCTCA | AAAGTAGCAT | TTACAATCTG | CGTTAGCGTT | GCTTGTGCAA | TTCCCTGGTT | 60 |
| | GGACGAGCTT | AGTGACAAGA | TGAAAAATATT | ATAGATTTGT | CTGACGGCCT | TTAATAGTGA | 120 |
| 5 | TGCACCGTGA | CAATTGCAAT | AAGGCTCATC | TGTCAATATA | CAGCTTGGCA | GGGCGCGGAC | 180 |
| | TACCTGCAAC | TGCACCTTCC | CATCAGTCGC | TTCTCCATCA | AAACAGTCGG | TTATGGTATC | 240 |
| | AACGGCAGCA | TCTATCAGCC | GCATTCTTGG | AGGTGGTGTG | ACACCAGAGT | CTGGCAACGT | 300 |
| | CGTGCCCTGG | TCGTTTGATG | CTGCGGAATT | TGGAGGGTTG | ACTAAAACAT | TCTCGTCTAA | 360 |
| | CGCCTTAAAG | GCAAACAAC | TTGATAGACA | ATCAAGAGCG | CTAACCTGTA | TTTCTGGAAC | 420 |
| | ATTAGTTCTA | CAGCAAGCAC | GTAGTGCCCT | AAAGACCAAC | AGAGAATCCA | AAAACTTTGG | 480 |
| 10 | ATCGTTTTCA | GATTGCAGGA | GTGTCTCGGT | CAAGTTTTTC | ACAGTTTTCT | CAACCAGTTT | 540 |
| | TTCATTATTA | GGATGTTTGT | GCATGGATTT | TGCTTGTAGT | ATACCCCTCT | ACCTTAGTTT | 600 |
| | CACAAGATGC | ACTGCGGATT | TCATCGTCCA | TGGACTACCA | GAGACATTGG | AATATGCCCT | 660 |
| | TGTGTGACGC | TTGAGATTAT | CCTGCGAC | | | | |

1605UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGAGCA | TCCGATGAGG | TGGCACCGGC | CGCGTCCGCT | GTGTCTTTCT | TCGCGGTATC | 60 |
| | GGCTTCCGAA | ATACTTAGCT | TCTCAATACT | TGGGACTGCC | TTATCTTCAG | AGGAAGCGGT | 120 |
| | AGCATCCTCA | CTCTTAGGAG | CGCCCTCTGC | GCTGCTCTTA | GGCTCCTCCT | TTGTTGGCTC | 180 |
| 20 | CTCCGCCCTTA | GCCTCTTCTT | TCTTCGCGAC | AGGTTTCTTA | GCACCAACTA | GCTTGATACC | 240 |
| | GGAGCTGGAA | GCCAACTTGA | GGGTCTTCTT | TGGTTTTTGA | GCAGTCGCAT | TCGGCACAGT | 300 |
| | TCCCTTCTCA | AAGTTGTTCA | GCGTCACCGG | AGCGGTGGCT | GACTGGCCCT | GTCCGTAACC | 360 |
| | ATAGCTCTGG | TTCCCTTAC | GGTTCCCTTG | TGGCTGTGAG | TTGTACTGCT | TGTAGCTCTG | 420 |
| | ATACCCACCT | TGCGCATTTG | ATTGCTGGTA | ACCTTGGTAG | CCAGCTTGTG | CTGGGTTGTA | 480 |
| | CTGCTGGTAT | CCCTGATAAC | CCTGGTACCC | GCCGGCTTGC | TGGTTGTATT | GCGCATAGCC | 540 |
| | TTGGTACCCA | CCTGCCCTGT | GGCCATACCG | CTGGTAACCT | CCCTGAGGCA | CATACCCCTG | 600 |
| 25 | GTAATTCGG | AAGTTACTTG | GGTTGTAGTA | TTGGCCGAAA | TTTTGCTGCC | CCTGACCTTG | 660 |
| | ATTTTGACCT | TGATCCTTGG | CTTGCGACTG | GCCTTGGTCG | TTGCCCTTGG | ATTGAATTTG | 720 |
| | ATCTT | | | | | | |

1606RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCAAGCAT | ATCAAATTTT | CGGCAATCTG | CGGCGTCATT | TTTTTGGACA | ACAGGCGTCT | 60 |
| | CCACAGGGTC | CATCTCCATC | AGCGGAGCTA | TACGTTGCGA | CAGTGGCCTC | AGCTTGGTAC | 120 |
| | TCTGCGAGAG | AATTGAGAG | CCCTTGGAGC | TGGCTGTATG | GTAACGTGCG | TCCGTCCGCT | 180 |
| | AGGTGGTCAA | AGACAGCGAC | TCTGAATACT | CGCATTTCGC | ATCCCGGTTG | CGCCGTACGT | 240 |
| 35 | ATCCGTGCGC | CGTGGACTTG | ATGGCAGTGG | TGTCCGAGCA | CGAAGACAGC | GAAGGTAGTC | 300 |
| | TCAGTGGCCG | CGTGGCGCAT | ACGTGCTACT | CGAGCACAGA | CTCGTTGTGT | CCCCTCCCGG | 360 |
| | TCATGTTCTT | CGGCTCAGTT | CGCGACAACG | CTCCCGACCA | TGCCCTGCCCT | CTCCCTTCT | 420 |
| | TTCTGTGGAA | GCGCCCAAAC | ATTAAATCTA | GCTGCTTCTT | CCTGGTACTC | TGTTCCGCTC | 480 |
| | GTTTCTGCCC | GGCGAGCCCC | TCGGATTCAA | TCTCTGTACA | GCCTTTATGC | CGCACTTGCT | 540 |
| | CGTCCTAATT | GGCTGCCACA | CTCCTGCTGC | TCGAACCTAA | GGCGTCTGTA | CCGAACGCTT | 600 |
| 40 | TCGTTGACTT | GACCGTTGGG | GCGTAATCTA | TTATTGGAAC | CTTGTAAGAG | CGGGCTTCTG | 660 |
| | TACGCTATTA | GTTAGCCC | | | | | |

1606UP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGGCTTG | AGTACTGAGA | TATTAAAGTCA | ATACCAGGAT | AAGCTTTCAA | AGCACCGTAA | 60 |
| 45 | TCCTACTGTG | CAATGGTGGG | GACCTACTGA | TTTCTCGCAC | TACGTCCCTAG | CGCCTGAAAT | 120 |
| | TTTATCATAC | GTGTGCCGAG | ACGAACTGGG | CCTTGCAGAT | ATCGATGAGG | CTTGGACTTA | 180 |
| | CATGGAAAGT | ACCACGGAAT | ACGGGTAAAA | TGTGGCGGAC | GAAGAGCCTC | TAGATATTGT | 240 |
| | GGAAATTAGAA | TACGAAGAGA | AAAAGCTGCA | ACGGTTAGGA | TTAGGACCCA | AGTACAGCAG | 300 |
| | CATGACTTAC | AGAAAGCATC | CTGCCAGGGC | GTCGGCTGTA | TTAGATACAT | CCAAAAATGG | 360 |
| 50 | TTCTAAAGAG | CATAAGCGTA | AAGGAAAGCA | ACACAAATTA | AAAAAAGGAC | AGCAGTCTAC | 420 |
| | AAAGATAAGG | GTATCAAAAA | AAAGGCGACG | CGTACAACCA | CACAGCATAT | GCGATTAAAT | 480 |
| | ATCTTACAAT | CGTACTAAGT | AATACATACC | GCGCTTATAG | AATCTGCTGC | TGCACGGAAA | 540 |
| | GTTGCATATG | CGAAAACATG | CTATGCAGTG | GATGATCGCG | TACCACTTTT | TAATCCGATA | 600 |
| | AAAGTGGACT | AGCGATAAAT | AGTAATTTCA | ATAGGGAATG | TGAATTTGAA | TTGAGAATTG | 660 |
| | GGATAATGCT | GTGGATTTCT | GTGATTATAA | TACCATAAAT | ATA | | |

1607RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCACACGA | CAGTGCCAGT | CGGGGCAGCC | GGTACCCGTT | GGCCGCATCG | TGAAGCTGAC | 60 |
| | TCCGAAGAAC | CCCTTCTACA | AAGTCCCCGA | GACGGAAGAC | CTGTGCGACG | TCATGGGCAT | 120 |
| 5 | CCTTGGCTCC | GGCGTGCAAC | TGTGCGCCAT | TGTGGACTCC | ACCTCTTCAT | CTATCCGTGG | 180 |
| | CATTCTGTCC | CAGCGACGTC | TGATGAAGTA | CCTGTGGGAC | AACGCCCGCC | AGTTTCAGCAA | 240 |
| | CCTGGAGGTG | CTGCTCAACT | CGTCCCTGCA | AAAGTTGGGC | ATCGGTGTGC | TGGATCCACA | 300 |
| | TACCCCTCCT | ACTTCGCGGC | AGTCGCGTGT | TATTTCCATT | CTCGACACAG | AGCCGCTGCT | 360 |
| | CGTTGCCCCTG | CACAAGATGC | ATACAGAACG | GATATCCTCC | ATCGCAGTGA | TCGACCACCA | 420 |
| | GGGCATGCTG | CTCGGGAACA | TCTCTGTGAC | AGACGTCAAG | CAGGTTACGC | GCACCTCGCA | 480 |
| 10 | GTATCCGTTG | CTGCACAACA | CCTGCCGCCA | TTTCATCAGC | GTGATCCTCA | ACAACCGCGG | 540 |
| | CCTGGAGATG | GGCAAGGACT | CCTTCCCCAT | CTTCCACGTT | TACCCACCTT | CGTCCCTGGC | 600 |
| | CCGCACGGTC | GCGAAGCTGG | TC | | | | |

1607UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGGTGCC | CGCACCTCCG | CCCGATTCTT | CGCCAGCTCG | TTGCAATGT | TCCGTATCGA | 60 |
| | CTTCTGCTTC | TTCAATCCAT | CCACCTCCGT | CCCGCCGCTG | TCCAAAGCTC | GCTTGGCTGC | 120 |
| | GCCGCCACTC | GTACCTGCCT | GCCGTTCTTC | ATCTTCAATA | ACTATCACTT | GCATCCCGTT | 180 |
| | AGTAGCTGCA | CGGTGCAGAG | GGCTGTAAAC | CTCCCCCTCAG | CCCTTCAAAA | CGCCCCACCA | 240 |
| 20 | CATACCTTCT | CGTCTGGAA | TCATGATTGC | CCCTGGTAAT | CTTCACGCTA | GCACTAATTT | 300 |
| | GGTCACTAAC | TGCGCTCTTG | CGGACTGGAA | TTGGTGGTGC | AGATGGTGAA | GTCTCATGTC | 360 |
| | GTCCATTTCT | GCCGATGTTA | AAATATGGGT | TTCCGAAAAA | GCCCTGCTTG | CCCTTGACTG | 420 |
| | ATGCTCGACT | CACAGAGGAC | TCACCAAGAG | TTGAACCGCA | GCCAGGAAGC | ATTCTGTGCA | 480 |
| | TACCAGAAAG | GGCCACCGGC | GAGAAFCAGA | ATCGATGTTG | CATAGTCGGG | CAGCAAGAGT | 540 |
| | GCTCCAGCGC | TCGGGGTCCG | CAAGCCGAGA | TGCAACAAC | CCGTGCACAG | CATCACAAGC | 600 |
| 25 | GGTATAGCAT | GGCTTCCCCA | ACGATTTCGC | AGGTGCCGGA | CTTCAGCAAG | TATTCCCGAC | 660 |
| | CTGGCCGGTT | ACAG | | | | | |

1608RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAAAACC | ATCACCAAGT | TTATTCATGA | AGTGTCCGAC | GATTTCAAGG | TCATCATAAT | 60 |
| | CGACGCAATT | CGTACTTTGT | CGCTAAAGTT | CCCAGATGAG | TGGAAGAATA | TTCTATCCTT | 120 |
| 30 | TTTAATTGAC | ACTTTGAAAA | GTGCAGAGGG | TGGGTATACA | TTCAAAAATA | ATATCGTAGA | 180 |
| | TGCGCTGTTT | GACCTGATCC | AACATGTACC | TCAGTCAAGG | GAACAGGCTC | TGGAACACTT | 240 |
| | GTGTGACTTT | ATGAGGACT | GCGAGTTCAA | TGAAATCTCA | GTCAGGATCA | TTTACTTATT | 300 |
| | GGGTAAGGAG | GGCCCTCGA | CAGAAAAGCC | TTGCTTTTAC | GTTAGACACC | ATTACAACAG | 360 |
| | AGTTGTCTTG | GAAATTTCAA | TCATCAGATC | TGCTGTGTTT | AGCGCATTTG | CCAAGTTTTC | 420 |
| 35 | CTCTCCGAAG | AAAGATCCGT | CGTTAGCTTA | TTCCATCGAA | AAATTGCTAA | AGGGTATCCA | 480 |
| | AACCGATGAG | GATGACGAAG | TGAGAGACAG | GGCAACCATT | CTAGTAAAGC | TCCTTGAGGA | 540 |
| | GAACAAGGAA | AAGCCTGGTG | TTGCCGATGA | ATTTATCCAG | CCAAAGCATA | GTTACGATCT | 600 |
| | ACTTGCCCTG | GAAAAGTAAA | TTAACGAAC | ATCTCCACCA | TAATGAAGAT | GGCTTTGCCA | 660 |
| | CACCATTTGA | CGCGTCGAGC | ATTCCAAAGT | TACACAGAAG | AGGAGCTCAA | GGCTATTAA | 720 |
| 40 | TTGAAGCAGA | AAC | | | | | |

1608UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCTGCGCA | AGGATAAAGG | TGTTTCATCA | GTCATTGTGA | ATGACGCCGG | CAGCCTGTGG | 60 |
| | CGCCTTAGTG | CCATTTCTGA | TGGTCCATTC | TCTGACTTCG | TCGGGCCCCG | AGGTGAAGAA | 120 |
| 45 | CGAGATCAGA | TCCAGCTTCT | GTCTCATGGT | GGTGATGATC | TTTGGGAAGG | CGGACTGGAC | 180 |
| | GCCGATCTTC | TCGCACTCCT | CGACAGCCTC | CTCGGCGCTC | ATGTGCGACA | GTCTCTCCTC | 240 |
| | CAGGCACACC | GAGAAGGGTA | TAATTAGATC | GCCAGGGGAG | TACTTGTCGA | TCCACTCCTT | 300 |
| | GATCTTCAAG | AGGTGCTTGT | TCTTCTTCT | AATGTAGTCC | CGCTCCGATA | GGTTGATCAG | 360 |
| | GTAGATGGAT | GGCTTGGCGG | TTAGCAGGAA | CATCGAGTTG | ATGACCTCCA | CCTCCTTGGT | 420 |
| 50 | GCTCCAGGAC | TGGTTTGCGA | CTCTCTGACC | CGACTTCAAA | AGCTCGATAA | TGCGCTTCAC | 480 |
| | CAGCTCGGCC | TCTCTCTTCT | TCTGTTCAC | CTCCAGGGAC | TGGCCGCTTC | TCTTGGTGAT | 540 |
| | CTTCTCCACG | GCTTCCAGGT | GCTTCTCCGC | GAACCTCAATG | TCTTCAAAAC | GCAATTCCTT | 600 |
| | GTTAATGATG | TCCAGGTCTC | TGACCGGGTC | GACGTCAACC | TCAATGTGGA | TGATCTCGGC | 660 |
| | GTCGTGGAAG | CAACGCACGA | CCTGGTAGAT | CGAGTCCACA | GATCTGATGT | GCGATAAGAA | 720 |
| 55 | GGC | | | | | | |

1609RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAGACGG | TAATGGCGCG | CATGCTGGCG | CAGGTGGAGC | ACGTATCTAG | CGTCCATCGT | 60 |
| | CTCTTGCTGT | GGTGGCGGCG | GCGCGGCAAG | GGCCTCGCTG | CGCGAGAAAT | ACAGTAGGGA | 120 |
| 5 | TCTGTGCGCG | CCGCGCACCA | GGGCACGCGG | GGCCGCGAAC | AGCGCCGTTT | GCCCCTTAAT | 180 |
| | CGGGACAAAC | GCATATAAGT | AGAGGCTTAG | GCGCTGCTCG | AGGGACGGCA | GAACACACAC | 240 |
| | AAGGACCAAT | GAACACGATT | ATCAACTTCC | AGGAAGGCAG | CGCGCAGGCT | CTCAGCGAGC | 300 |
| | ACAGCATCTT | CCCAGATGTG | CTGGTGTCCA | CTGCTGAAAA | CGGTCCATCA | GGACACCTTG | 360 |
| | TAGTGGAGTA | CCCGGGCGAG | TCTACAGCGG | TGACGCTGGG | GAACGTTATG | CCTGTGGAGG | 420 |
| | CTACGCAGAC | GGTGCCCAAC | CTGATGTTAA | TCACGACCGA | GCCGGGAATC | GTCAGGGAGG | 480 |
| 10 | GGGACCTATT | CACGCTGGCG | ATGACAGACC | CAGATGCTCC | CTCGCGGTCC | GACCACAAGT | 540 |
| | GGTCGGAATA | CTGCCACTTT | CTGGAAAACGA | ACATAACGCT | GGGCTCGGAT | GACGGGGTGT | 600 |
| | CGCACGTGGT | GCTAAAGGGC | ACCCCGCAGG | TGGAGCATAT | GGGCCCTGCG | CCGCCGGGCC | 660 |
| | GGCACAGGGG | CTCACCGGTA | CGTGTGGTTG | TT | | | |

15 1609UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGAAG | ATTGAGAGAA | GGAAAGCGTC | TTGGTGCTAG | CCTCGTGACC | CCCTCCCGGG | 60 |
| | CTGGAACTGC | GCGATATACT | ACATAAAATA | CGTTATCCCT | GGAATTTGTA | GCATTAAAGG | 120 |
| | ACTTATGAC | TATTCGTAT | ACCTGCGCTT | CCCGCTGCCA | CCCGTAGCAA | TGCCAACTC | 180 |
| | ACTCCGAGGC | CTCGCTGCTG | GCCCAACAAT | CGGACTCAGC | CGGACCCGAG | CCCCCGAGTC | 240 |
| 20 | ACGTGCCCCC | CGCATTCGCG | CCCATTCAC | TCCGCTTGCC | TCCGCTTCGC | ACCCCGGCAC | 300 |
| | GCGACTCCGG | GCCCCGCAGC | CCACGCTGAT | TCTAGTTGCA | TAGGAAACTA | GGCTAAATC | 360 |
| | ACGTGACTGA | ATCGCGCGCG | CACATCATAC | CATGGGACAC | GACCCCGACT | ACCCCCCCCC | 420 |
| | CCCCCGCGCG | CGCGCTGCAC | AGCAGCCGTA | TACGGCGCAG | GCGCAGTCCG | GTCGCGCGCC | 480 |
| | TCTGAGAGGG | CGCATGGCCG | CCGATGCTGC | ATGGCTGCCT | CGGTGTTGCC | GAAGATGTGG | 540 |
| | AGGCACGTAC | GCGGGCAGCT | CAGTTACCCG | AAGTTACCCC | TTCTTCTGAT | TAAATTTGGA | 600 |
| 25 | CTGAAACTTA | AAAGCCGTCA | GCAGTGGCAA | ATCCACGGTG | AGAATAATTA | CAGGAAACAG | 660 |
| | CGGTGGACCA | GCTGCGGAAC | TAGACGACGG | GTTGGTGTGG | CACGCATAGA | AGGTATGTTC | 720 |

30 1610RP

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|----|------------|-------------|-------------|-------------|-------------|------------|-----|
| | GATCAATTTT | CTTTCGTATA | GTTGGCGTCC | CAGGCTCCGA | GATAGCCCCA | CATGATAAAT | 60 |
| | TGCTATCGCA | CATGATGTCC | TGGTTGTCAAT | TGTTGTCCAA | ATTGCTCAAA | TCAAAAATGA | 120 |
| | AACTACCATC | ATCTGGTTTC | ACTTTTCAGTA | AACTATCGTT | TTTCTCTGTT | GCAGGGTCGA | 180 |
| | AATCCATATC | ATCCCGTAGA | TATTCATATG | ACAGCAGAAA | CGGAACCTTC | TCTGCTGAGT | 240 |
| 35 | TCAACACCTG | AGCTTCGTTA | GCAGCAATAT | TTACAAATTC | ATGCAGCTTG | CCCTTCTTAT | 300 |
| | TAGGCGGGCA | CAGTGTAGGG | ATATCTACCT | CAGCTGGCAA | GTCCCTATTTC | ATGATAGAAA | 360 |
| | GCTCAGCTCT | CAATGAAGTT | AGGCGAGCTT | CAGTGGGAAC | TTGCGCCAAC | TTCTTGGATA | 420 |
| | TGGTTTCTAG | AGCAATCACA | AACTGCATCT | CGCAGCGGAA | GTAATTTGCC | TTCAAGATTT | 480 |
| | TGATTTTATG | TGTGGCTGAT | AACTGGAGG | GCTCCAGGTT | ATAGATGTTT | GCTCCATGCC | 540 |
| | GAGATGTCCT | CCGTTTGTGG | CTCTTCTTTA | AATCATTTGA | CGGAGACTGC | GTGATGCTAC | 600 |
| | CACTTCCATG | CTGCTCCAAAT | GATTCGCTGAT | CCTTATACGA | GTGGAGTGAC | GTGCTGGATC | 660 |
| 40 | GAGAATTCAG | ATGCAAAATTA | GGCATAGAGT | TTGTGTATTTC | CTCTAGCTTA | GCACCATCGT | 720 |
| | TATCTTTGGG | C | | | | | |

1610UP

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|----|------------|-------------|------------|-------------|------------|------------|-----|
| 45 | GATCGATCTG | TACAGAGCCG | TTACAACAGG | CACTTGTAATA | AAGCAATATC | GTTACTTTTT | 60 |
| | TGCATGTCAG | TTTTTTCCTC | GAGCCTCGTC | AGCGCGAGGA | ATGAGTAATG | GATACTTTGA | 120 |
| | CGACAGAAAA | AGTGAAAACCT | TTGAGCGGAC | ATCGCAACCT | GCTCGTTAGT | AGCACCTAAG | 180 |
| | CGCAGGTTAG | CACAAATGGCG | CCAAAGGATA | CGGCGGTGTC | GGAGACCTCT | ACGCGGTCTC | 240 |
| | GCTATATCAA | AAAGGGCAAG | ACTTTAGAGA | ATGACATTGA | GCTACAGTCG | GTGACGCCAG | 300 |
| | CCACCGGGGA | GTTCGCCGAG | GACCACACGG | AAGAGGGCGA | CTACCAGGAG | ACGGAGGTCA | 360 |
| 50 | AGAGGGCGCT | GAAGGGCGCG | CACATCTCGA | TGATCGCGCT | GGGCGGGACG | ATAGGCACAG | 420 |
| | GCCTGTTTCT | TGTGATTGCA | TCCCGCTGCG | GGACAGCGGG | GCCAGTGGGG | TCGCTGTTGG | 480 |
| | CGTACATCTT | CATCGGTACG | GTGGTGTACT | CGATCACCGA | GTCGCTGGGG | GAGATGGCGA | 540 |
| | CGTTCAATTC | TGTGACTCCT | CGGTGACGGT | ATTTTCAAAG | CGGTTTCTGT | CGCCTGCGTT | 600 |
| | TGGCGTGGCA | AACGGGTATA | TGTACTGGTT | CAACTGGGCG | ATCACGTTTG | CTGTGAGCT | 660 |

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TTCTGTGGTT GGCCAGATCA TACAGTACTG GACGGACCGC GTGCCAATCG CGGCGTGGAT 720
TGTGATTTT

1611RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCATCGT | GGTGTGCTTC | ATTACCTGTA | ATTCCATTGA | TATCCTGGCT | ATGCAGTGCT | 60 |
| | GGAAACGCTC | CTCCAGCGCC | TCATATTTGT | TATTCAGCTC | CAAGTACTCC | GCGAGCTTAA | 120 |
| 5 | AGGTCAACGA | GAGCGACCCT | GGATTGCACC | TGACGGCGAT | CTCAAGGACC | TTCTCGTGCT | 180 |
| | CGTTCTCGTC | CACAAACATG | GCGTAGTTGT | ACCATATCTC | CGGCGCAAAG | CACATGTGCT | 240 |
| | GCACAGCCTG | GCGGTGCACG | TATTCCACGC | GCTGGCGCAG | CACGACTTCG | GGCAGGTCGA | 300 |
| | GCTTGTGTGC | CAGCTCCAC | TGGATCCACT | TGGTCCAGAT | CTGCAGCTGG | TACTCATCGT | 360 |
| | ACTGACCGGG | CGCAGGCAGG | TTCTGCTGTG | TGGCCTGGTT | TAGCTTCGTG | GGCAGCGAGC | 420 |
| | GCCGCAGGCC | CTTCGTCAGG | TTCGACCACT | CCTGGTACAG | CGAGCGCGCA | TTTCATGTAGC | 480 |
| 10 | TGCGCGAGAG | CTCTCCGATG | AACCTCCCGG | CCGTCAACTG | GTTGACCTCC | TGCTCCCACT | 540 |
| | GCGTGTATTT | CTCCCACTAC | CGCTCCAGCG | ACTCCACTGG | CAGGCACAGC | AGGCGCTTGT | 600 |
| | ACAGCTTGCG | CAGAATCTCG | ACCCGGCTCT | GCTCCTCCCA | CTTGCTCACC | GGCTTCCACT | 660 |
| | GCTCCA | | | | | | |

1611UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAAGGG | ATGGGTGACT | GCTGCCGGTG | CTCACAGCAG | TGGCACGTAG | CTAGTAATGG | 60 |
| | TGCGAAATCG | ATCAAGAGGG | GTGCGTCTGG | CGGTACAGGC | AGAAAGCAGG | CCCGCCGATA | 120 |
| | CAAGTTCCAG | TTCTACAAGC | ACCTGCAGTT | CCAGGGTACG | AGGTACCAGG | TGGTGACTTC | 180 |
| 20 | GCGGCCGTAT | CTGATAGAGC | GGTACGGGGA | GCGCAAGGCG | GCGACGATCA | GGTCGTTTGT | 240 |
| | CAAGTGATC | CATCGGAAAA | TCAACGACGA | TGTGACACGG | ATCAGCGACG | AGCGGGTGAC | 300 |
| | GCACGGGGTG | TGGAAGTGGG | AGAACTCGAA | GCTGTTCTTG | CTGCTGGTGA | CGCTGTCCGA | 360 |
| | GCGGGGCGGG | CCGGAGTACT | GGCTGGACAA | GACGAACGGG | TGCCAGAGCC | GCGCGGGCGG | 420 |
| | AGACGGCGCG | CGGAAGAGCG | ACCAGGTGGA | GGAGGGCGGG | AGCCGGCGGG | GCCAGAGGCT | 480 |
| | CGTCTGCACA | CTGGTGGAGC | AGATCATGCG | CGAGAACATC | ACGGAGGACT | ACGACGAGAG | 540 |
| 25 | CGTGACGAC | GAGAACTACG | TGTTCTCGTC | GATATGGGCG | AACTTCATGG | AGGGGTTGAT | 600 |
| | AAACCACTAC | CTAGAGAAGG | TCT | | | | |

1612RP

| | | | | | | | |
|----|------------|------------|-------------|------------|------------|------------|-----|
| 30 | GATCCATGCG | ATAAATCTCC | TAGTGGTGTG | GTTTCACACG | AAGCAGCTTC | CGTCGTTCTC | 60 |
| | GTGGTTTTTC | CTGCAGCTCT | GTTTCGAGCTT | GATTTTGGTG | TTTTTGGGGA | CGTGGACCAC | 120 |
| | GAGGTGGCGC | GAGCTTCGCG | ACACGTTTTT | TGAGGGTCTC | ATAGATCAGG | AACCTATTAC | 180 |
| | GGGTGGGGCT | GAGTCTCCCT | ATCATGGCAG | TTCTCAGAAC | AGACAGCAGT | TTGAGATGAA | 240 |
| | GGAATTGGAG | GCACAGAAAT | AGCCTACATT | ATAAATACGC | TTGAGATCAT | TCTAGCGCCA | 300 |
| | CGGTGAGACT | GATCATTCGT | AAATAGCATT | TTAATAACGT | AATATATCAT | ACGCTGGTTA | 360 |
| 35 | TTTCGGATGC | AGGACTCCGA | AATAGTCTGA | CAATTATGTA | CTGTAAAGTT | ATTTATTTTC | 420 |
| | AGACGGCGTA | TCTCGCTTGA | AACCTGTTCC | AGTGACACAG | AGATCCAGCA | GCTCGAATAC | 480 |
| | TGATTTTTTC | GTATTGTTAC | CTGGTTCGAC | GATCTCCAAG | CCACCCTCCA | ATCGCTGCCG | 540 |
| | CAGCTGCAGC | ATTGCTACCG | TAGACTCCAG | CCTAGTGACA | AGATGATCCA | ACAAGGATAT | 600 |
| | CCAATCGTAT | TCCGTGTTCT | GGCTCAGCGC | TTTATCAACC | TTTTTATCAC | GAGTCATATG | 660 |
| 40 | TGTGGGTAGT | TGTAGGACAC | TATTGTGCGAT | TTCGATCAGA | CCGCCGTT | | |

1613UP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|------------|------------|-----|
| | GATCAAATAG | ATGTGCGCTG | CCACATAGGA | CGGAGTCGCG | GCTAAGCTGT | GTGTTTTACC | 60 |
| | TGGAGGCAAC | TGTTGGACTC | CTGTGTTCAGC | AATCGCGCCC | CGACCTGCCG | AACAAGCGAC | 120 |
| 5 | TATATAACAA | GCGAGGAAAC | CACCTTGTGA | TACGCACGGG | GACCAACGAC | ACAGCAACGA | 180 |
| | CACAGCAAACG | ATGGCGGACC | TCGGGGCTCT | TATTGACTTG | ACGCGGATAT | CGGAGACCGG | 240 |
| | GTATGAATCG | ACGAACCATC | ATAGGATGAT | ACACGGCGGC | AAGGCGCTCT | ACGGGGGTCT | 300 |
| | GCTAGTGGCA | CAGGCGATAC | TGGCGTCGTT | CTACTTTGTC | CCCAGGGACT | TTATTCCGCT | 360 |
| | CTCGGTGCAC | TGCCTGTTCA | TGGTCGGCGG | AGACAAATGCT | ATCAAGACGC | AGTACGAGGT | 420 |
| | TGAACGGCTG | CGGAAGGGGA | GCAACTTCGC | GCACCTGTTG | GTGCGCGCGT | ACCAGAAGGA | 480 |
| 10 | CAAGGAGCTG | TTCACAATGC | AGATCATCTA | CCGGCGCGAC | CTCGGCAAGC | AGCCGGACAC | 540 |
| | GCTGCACCGC | AAGGACAACC | TGGGCCCTGT | GGACCGGTCC | CACCTGGAGG | ACGCTGGCAC | 600 |
| | GCTATGCAGG | CGGGATCTAC | TGTCCAACCG | TGAGAACCTG | CAGGCGGTGA | GCGCGTCTTC | 660 |
| | GAGACGGATA | AGGGCCTTAA | TAACATTCTG | GAGGGGTTCG | ACAACACGTC | GTCCGAGTAC | 720 |
| | AGGCTGCCTG | GC | | | | | |

1614RP

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|----|------------|------------|------------|-------------|-------------|------------|-----|
| | GATCGCGGGG | ATGGACCCGT | GCTTCGACCG | CCTTCTGGCG | CACCGCGCGG | CGTTCTTCGC | 60 |
| | CGCGGTGCAG | GAGCAGGTGC | AGCGGGACTA | CGGGGCGATG | GAACAGTTCC | ACAAGTTCCC | 120 |
| 20 | CGACACGATC | CGTGTGACAC | AGTTGGTCAC | GTATATATGG | CGCGTGTTCG | AGCGCGTCTG | 180 |
| | CGTGTACCCG | CCGAACCAGC | AGCGCTGCCA | TCCTCGAAGAC | ATCATGCTCT | TGCGTGTGTA | 240 |
| | CTGCGGCGAG | GCGCGGGGGG | ACCCGCTCTT | GCTCATGGCG | ATCGTTCAGG | CGGTGGCGGC | 300 |
| | ACGCTACGGG | GTGCAGACGC | TCCTCTGCGA | GCAGGTATTG | ATCATCATTTG | ACCGCAAGTT | 360 |
| | GCGCGGCGGA | CAGTCATACT | TGATGATCCC | GCTGCGAGGG | AACGCAAAAGC | CGCGCATCTT | 420 |
| | CACGCGGGCG | CGCTTGCTCG | ACACTATGCG | GCACACAATA | CCCAACATTG | CCGACCCGCG | 480 |
| 25 | GAGCCTGGCG | CTCGCCCGGT | TCCTCACTCC | GCTCACGAAG | CGCGCGGGTG | CTGAGAAAAT | 540 |
| | CTTCAAAGAC | TGGTCCATCT | ACTGCGACAA | ATCCATATGG | CGGACGATCC | CTGATCACTC | 600 |
| | GCCCAATGGC | ATTCTGCGCT | ACCTCCCGCA | CTCCTGCACG | CCGATGGACG | AATCCATCTT | 660 |
| | TGAGTATTTT | ATCGTCTATT | GGAAAACCGC | AACAGCAAAC | CAC'TCCACGA | ACAACATTTT | 720 |
| | CCACACC | | | | | | |

1614UP

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|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCTTTTC | ACCAACAGCT | GTCTGGGCCA | GCTGCGGCCCT | GGGATGAGCT | ACAACGAGGC | 60 |
| | AGTGAAAGCG | CTGACGAACC | TGGCGCTGGA | CAGCTTTACA | CTGCCCGGGGA | CGGTGGGGTT | 120 |
| | TCCGCTGAAC | AACGTGTACT | CTGTGCCGGT | AGAGGACGGT | GCTCAGATGG | AGCTGCTGAA | 180 |
| 35 | GGGGTACCTG | CAGCAGTTGC | GGCAGGAGCT | GGCCACGCGG | CTGCTGGACC | GTGTGTATGG | 240 |
| | GGCGGAGAAG | GCACAGCCCT | CGAAGTTCTG | GCTGGCCCTC | ACAAGGCGCA | AGTTTATGAA | 300 |
| | CAAGGCGCTG | TAAGGCGAAA | TAGGTACGTA | GCTGGCGGCG | CCAGGAAGTA | TTTACAAAGT | 360 |
| | TGGCTGTATC | GCTACGAGGT | TTTGGTGGCG | TGTGCCCTGT | TGGAGCGCAC | GAGGAGTTCA | 420 |
| | ACGGCGGAAG | CTCGGAGCTG | TTCCGCGTCT | TTCACGATCG | CGTTACAGTC | AATGCTGAGG | 480 |
| | TCGGTGTTTT | TGGCGCGGAA | GCCTTGGATC | CGCGCCTGCA | GGTCTGTCAQ | CGCCTGGAGG | 540 |
| 40 | ACACGCTCAT | AGTCTGCATC | TTCTTTTCAG | CGCTCTTTGT | ATGTTTGGAA | GGACTGAGCG | 600 |
| | ATGCTCTTCA | TAC CGGGCTC | GACTCTGCTG | ATCATCTCGA | TGCGCTGGCG | CAACAGCTGA | 660 |
| | TCGCGGTCCG | TGTTGGCGTT | CGCGTCCGTA | ATCATCTGCT | GGATTTTCGT | ATCGGTCAAG | 720 |

CCCGAT

1615RP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCATTTCAG | CTGGACGTCA | GCCGACTACT | GTTGGACCCC | ATATTTCACGG | TCCCCGAGGT | 60 |
| | GCAGAACGAC | ATGGTGGAGA | TTCTGCGCCA | GTATATGCTG | GAGTCGGGGC | GGCCGTACAA | 120 |
| 5 | GCAGGGTTTC | CATGAGCTAT | GCGGCATGTT | CTACATCCAG | CTTTACCGCA | ACGGCTACCG | 180 |
| | GGACGGCATC | CAGCACACCA | CGCTACATAT | GTTCAAGGAG | TTTCATCGCAG | AGGTAGCTGT | 240 |
| | GACCTTCTAC | GACGAGGGAA | ACCTCATCGA | GTGGACGAAG | AACACGTTTG | AACCGATACT | 300 |
| | TCGACACGCG | TTGCCAGGCT | TGTACGAGCA | GCTTCTAATG | CACCATGAGC | TGGACAACCTC | 360 |
| | GATATGGCTC | ATCCGCTGGA | GCAGGCTGCT | CTTTCTCCGA | GAGTTCGAGC | TGGAGTACAC | 420 |
| | GCTTTGCTTG | TGGGATCACC | TGCTGACATT | TAGATACCCA | GTATCCGAGC | TCGTAGCAGC | 480 |
| 10 | CATTATCGTT | GTCTGTCTGA | CACTCATTTG | ACAAGAAGTG | CATTCTCTGTG | AAGACCACGG | 540 |
| | CGACCTGATG | TCTATTCTAC | TGCACTACCC | TCCTCGAAGC | TGCTGAGCGC | CCCCAGATGA | 600 |
| | TCCGCTCCGC | CCGGACGCTT | CCTGATCTGT | GGCTCGCCGA | ACAATATGAA | GACATGCAAC | 660 |
| | TCATCTGCGA | TTCACATAAT | AAGTCGCAAC | ACGGCGCCTG | GTTC | | |

1615UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCGTTA | TTCTGGACAA | CATTGCGTAT | AGGGACTGCT | CCTGCTTTGT | GTGAGGAGAC | 60 |
| | GTGTGCTGAC | TTTAAATAAG | TACGATGAAA | CGGTCAGCCT | ACGGTGGGGC | CCCGTTTTTC | 120 |
| | AGTTTCGCAC | GGAGAGGGTA | TCAAAGGAGG | TCGAACACAG | CTACGTTATT | GGTTCGTATA | 180 |
| 20 | GCATGCTTTT | GAAGCCCCTA | GCTTCACGAG | CGCTCCGACC | ATCCCAGCCA | CCGCGCCCCT | 240 |
| | ACGCCCAAGG | CCAGCTCCCG | CAATACGGCA | GCGCCGTGGG | CCCCTTTTCG | TAAGTATATA | 300 |
| | TGGCGTGCGC | GCGCCGCGCG | GCCGAGGTGC | CGCGGTGCAC | AATGGCTTCT | CGACTTGACA | 360 |
| | AGCTCCCCTG | GGCGGTGAGT | CGCCTGCAGA | GCCTCAGCCA | TAGACAGCTG | CTCCGTCTGG | 420 |
| | CGCAGGCGCT | GTGCATCCCT | GCCCCTGTCC | CGTCCCTGCA | CAAGGGCCAG | AGTGGACGCG | 480 |
| | TGTGCGTCTG | GGGGGGGTCT | CTGGAGTACA | CCGGCGCGCC | GTACTTCAGC | GCGCATGCCG | 540 |
| | CGGCGCTCAT | GGGCTCGGAC | CTGGTGACAG | TGCTGTGCGA | GTGGAACGCT | GCAACGCCGA | 600 |
| 25 | TCAAGGCCCT | CTCGCCGGAC | CTGATGGTGC | ACCCGACACT | GCGCGACAGT | AGCTCCCTGG | 660 |
| | CGCGCGGGCT | GGAGCCCGCC | ACAGAAGCCG | TGCGCGCGCT | CGTGA | | |

1616RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCTTC | AAGAGCTCCT | TCTGGTAGGA | CGAGCCAGG | ATGAAAATCT | TGGAGACGGT | 60 |
| | GACAGGGTCC | AGGAACGGCT | TGAACAGGCG | GAATGCGGCG | GAGAAGCCGA | ATGGCGCGTT | 120 |
| | GATCATGTAG | AACTTGCCCC | TGCGCTCGGG | GTAGTAGTTC | TGGCCGATGT | TCGAGGCCTC | 180 |
| | GCGCACGTAG | CTGAGCACCT | GCGCGGCTGC | GGAGATGGAG | ATGCCCTTGA | GGTCTAGGAT | 240 |
| | GGTGCAGGAC | GTCTCGACGA | GGCAGTCGGC | CTGTCTGGAG | CTGGCCGGCA | AGCGGTACCG | 300 |
| 35 | CGAGAAAGAC | TCGTACTCCC | ATATCAAGTT | CTTCAGCATG | CGCTCCTGCG | TCGTGATCTT | 360 |
| | GTACATCTCC | GTCAAGTTCA | CCGCGCCAG | CTCCTCGATG | TACACCGGCC | TCCCGTCTTT | 420 |
| | GTCCGTCTTG | TGCTAGTACT | GCGGGTAGAA | CTTGGCCACC | AACGGCTTTT | CCTCGTAGTG | 480 |
| | GAAGTCCTCG | AAGATCGTGT | CCACGCCGTT | TTCTTTACGC | CACCTCTCGC | AGTTCTCAAA | 540 |
| | CATTGCCCGC | GCAGCCGCCC | ACGTTTCAAC | TTGCGCGCCC | GCAGAAACCG | CAAAAGCGTC | 600 |
| | GAGTCGTCCA | GACGCTTGST | GAATCCGGCC | TGCTTCAGCA | CCTTGCGCAG | CTCCTCCAGC | 660 |
| 40 | GCCGCTCTCG | TGCTCCGCTC | CGTCAGG | | | | |

1616UP

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|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCACCTTT | TGGCACGAAC | GCCACAGAAA | ATCCATTACG | CGATTCTGCC | CGTTTCATTT | 60 |
| 45 | TGTACGAATG | GGGAAATGAC | TCGTGCGCAT | GGCACAGGTG | ACTATCGCAT | TTCTGTTTCGG | 120 |
| | GGGCGTGATG | CCCAGATTTT | CTTGCGAGAA | GCCGCCACCC | TGCGGGATAG | GGCTTTACCT | 180 |
| | CACATGAGGC | GCAAAGCGAC | AATAATCGCA | GAGCTGCTTC | TTACTTCAAT | CTCTACCCCA | 240 |
| | CTAACGTAAT | GACACGGACA | GGCACAGTCC | TACGGTAATC | CTCTGAGATA | CCAGATTCCG | 300 |
| | TTGCATAATG | ATCTCGCCTA | CAGGGCCGTG | TTTGTTTCGAG | CCCATATCTC | ATGCAAGATC | 360 |
| | GCGATGCCCG | TGACGATCCA | CCTTCACCAT | TTACTCGTTT | CTTTTTCATG | TTTTCAAAAA | 420 |
| 50 | GAAACGAAAA | GGTGAGATAA | AAAGCAACAA | TTACTACCGA | CATTTAAAAA | AGGTGATGTC | 480 |
| | CAGGACTGTA | CCTCATTTGT | GCGCTAACA | GCACCAGCAA | TGCTGTGTGC | ACCCCTTGTG | 540 |
| | CTGTTTGACT | TTTCAACAGA | CAATCCGAAC | ACACTGCCCC | GGGAATACGA | CCTTGCAATG | 600 |
| | GCCCGAATCT | GTGTGCTGGG | CCACGGGGGC | AGTGGAAGT | CATCACTCGT | TGCTCCGATG | 660 |
| | GCTACACGGA | CTGGAGAGTG | GCCTG | | | | |

1617RP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCTTGACA | CCAATCGACT | TCCGGAACGC | CTGAGTCAAG | GCCTCGGTCT | TGGATAGCTC | 60 |
| | CAACGAGAAT | ATCTCTGACC | CTGCCATCGC | TGTGAAGGGC | ACATCTGCGC | CCAGTGACTG | 120 |
| 5 | CGACAAGCCC | ATCGCCAGCG | CCGTTTGTCC | GGTCGACGGC | GGACCAGCAA | CCAACACGGC | 180 |
| | CCGCCCCGCA | ATCGTACCGT | TCTGCACCAT | TTTGAGAATC | ACGCCTGCGG | CCCTCCGCGC | 240 |
| | CTGTAAGTGG | CCCACCATTC | CCTGCGAGCT | CGGCTTAGGC | TGTAGGTTCT | CGTCCAGTCC | 300 |
| | CAGGCCAACA | ATGTGCGAAT | GTGTGCGAAT | TAGCGACAAG | GACTTCAGAG | ACATGTTCATG | 360 |
| | CGCCTCCTGT | GTTTGAATCG | ACATATTATA | GATCTTTGAA | ACTTTGAAAC | CGTCAAGAGA | 420 |
| | GTCCAATGGC | CTTTGTGCGAT | GACCGTCTAA | CTGTTCAAAC | GGTTGTGCAA | CATACCAAAT | 480 |
| 10 | TTTGCCCGAG | CCTGAGGACT | AAAACGCATG | TTATACGAAG | TCAAGAAGAA | GCATCGTTTG | 540 |
| | AGTGCTAGC | AGTTCCCTGA | CTCTCAACTT | GGTGCAGCG | TGCGGTGTGA | TGCTTCGCAT | 600 |
| | GGGAGAGTAC | ATATGTGGTT | GCAAGCCACT | TTGGAACCTG | TGGGCTAACG | ATGTACGCAT | 660 |
| | CACCGTGAAT | GGGAAGCGGT | ACTTGGTGAC | TGGGCTCCTC | AGT | | |

1617UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGTTTCG | TGGAAGAATT | CATGTCATGC | AGAGAAATGG | GAAGCAATTT | ATGCTCAGCT | 60 |
| | CCCTCCCCCT | GTTCTCTTTC | TACCGCCAGG | CCATGCAGGC | ATGTCAGGCG | CTCAACACAC | 120 |
| | CTAGTGACAA | ACTCGCCGTT | GTCCTGACAG | CCTATGCGTT | CGTAAATGTT | AAGGCCATCC | 180 |
| 20 | GATGTTTCGAA | GAGGTGACAG | AAATTCCCGC | TGTAAATTCT | CAAAGAAACT | GTCCAAGGGC | 240 |
| | GTATCCTTCA | CAAAGTCGGG | GCGCCGCTGC | AGCACATCTT | CCAGCTTCCT | CTGTTCCCCC | 300 |
| | GAGGCGTTGC | TCATGCTCGT | GGCGATTGCA | CTTGCTCAGC | TCGGCCTCTG | CAAGTACGTA | 360 |
| | ATTTTAGCTA | TGGAATAATT | TCCCTCCTGG | CGATGAGCTC | ACGAAGTCTA | CATACCGATT | 420 |
| | GACTAAGACA | CTTGCCACCC | GTTTGCGCCT | CATGCCACTA | CACCAAGGAC | CTCTGGACAT | 480 |
| | CGAGGATCAA | CTTGCCATCA | TTGCGGACGC | CCGCATAGGC | GATCTTGACA | GCCTCAAGCA | 540 |
| 25 | AATCTTTTCC | GAGCTCATCG | ATCCAAAGCT | CCTGCCATCG | TGCAGCGACC | CAGACACGCT | 600 |
| | CTGCACGCCG | CTGCACATGG | CTGCCGCCAA | CGGACACGCC | GACGTGCGCC | GCTAACTGCT | 660 |
| | CTCGCTGCTC | GAGCCCGCCG | CGGGACGCGA | CTGGGG | | | |

1618RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCCGGCGT | CCGGAAGAGC | AGCTTATGCT | GAAGGGCTAC | CTAAGGGACA | CAATCCCCCC | 60 |
| | CCCCCCCCAA | AAAAAAGACA | TGAGACTCTG | TATCAGTAGG | AAGTCTATCG | CATCTTCTTA | 120 |
| | TTTAGCCTGT | ATATGTCCCT | TCCGCGTGTA | GACAKTGCGT | TGGACGAGTA | TGCTCGATGC | 180 |
| | GGAATATAAC | GTACTTTTTT | GAAGAGTAAT | ATGGACTTTC | GACCTGCAAA | GTACCGTCTG | 240 |
| | CCGTTCGCGT | GTCAGACACT | CATCGGAACG | CAATTGTTGC | GGGATCACGG | TATGCTTCTG | 300 |
| 35 | TTGTATGCTA | TGGTAGCTAT | AGGGTCTGGA | CGGCTATCCA | GAGAGATATT | ATCCCATTAA | 360 |

1619RP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|-------------|-----|
| 40 | GATCAACAAT | GTGCCGCGGC | TGCTCCTGTT | CCGCCCGGGC | GGTGATCTGG | ATAGCTACGA | 60 |
| | GCCTCTCGGG | ATTCCGTCCG | ATACAGGCGG | CGCACGGGTG | CGGGCGATCA | TCGACACCCCT | 120 |
| | CAAGAGTTAC | ACCGGCATCG | AAGACTTCGA | GTACCACGAA | CCAGTGAACCT | GGGGCCAGTA | 180 |
| | TGCCGCTATC | CTCATGATGG | CCGTCCCCGT | AGTAATCATG | CTGCGCAACT | ACTGGTCCGT | 240 |
| | TGTGGTGTCC | ATCGCCCTTT | TCCGGCCTCT | GTGGGGGTTT | TCCTGCGTGT | CGATCGTCAT | 300 |
| | CGCACTTGTG | AGCGGCGCGA | TGTTTCAMCA | GATTAAGGAC | ACTCCCTACG | TGGGCTCGTC | 360 |
| 45 | CGGTGATGGC | AATTACGTCC | AGTACTTCGC | AATCAGGCAG | CAACAGGTTT | AGTTCCGGGT | 420 |
| | GGAAACTCAA | ATCATCTCCG | TCAATATATG | CACCCCTCAG | GCAGGAGTCG | TACTACTTGC | 480 |
| | CATTGGCACC | AAAAGCATCA | GAGCTTACTA | CATCAAGTAC | AACTATAGCA | TGCACGCGGT | 540 |
| | GGTGCACTTG | TTGTTGTCCC | TGCGCGCAAT | ACTGCTTATC | TATATCTCCT | TCGCCGCCCT | 600 |
| | GCTCGCAGTC | TTCAAACCTGA | AGAACTTTGA | GTATTCA | | | |

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1619UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCTTGC | TGGAGACCAC | AGATTTTCTA | CGGTTGTCGG | TAAGGGCGAG | ATGGCGTCGA | 60 |
| | CAACCACGGA | GGAAAAGCTC | ATGAAGCTGA | ATCCAACAGC | TACAGATGCG | AACAATTACA | 120 |
| 5 | TTAATACTGA | TACCACTGCG | AGCAAGCCGG | CTCCACCTTC | GTCAACAGAG | GCTGGACAGG | 180 |
| | CAATTGAACG | AGAAAAAATA | CTAGACCGGA | GGCAGACTGA | GAAGGACAGT | GTAGAGAGCA | 240 |
| | GCAAGGTTGA | GCGCCCGGTA | GTAGATGCAT | CGTACGTAGG | GTGGAAACAA | ATCGGCGGGT | 300 |
| | GGGAAGAGCG | CGACCGACTC | ACCGAAGATG | ACCTGCACTG | GGAGCTTGAC | AGAGAAACCT | 360 |
| | TTTTAAGCCA | TGTGCTGCCT | GCTGCTGCGT | ATGGCGACTG | GTATCACTCC | GTGGGGATAT | 420 |
| | TCCTCTCGG | CGGATTTTTA | TCGTTTGCGT | TGGGCTACTT | CAAGTTCAGT | TTATCACCTG | 480 |
| 10 | TATTCCTCGT | AATGGTTTTG | ACGGCTTTGC | TATACCGTAC | ATCGATTTGG | AAGTACAGAG | 540 |
| | GGTCGATAAG | GGAACTGGTG | CAGAAGGAGC | TCACAGTGCA | GAAAGTAGAG | GATGACTACG | 600 |
| | AGAGCATGGA | CTGGCTCAAT | AACTTCTTGG | ATAAATTCTG | GACCAGAATA | GAGCCCAACA | 660 |
| | TTTCCGTGAT | GGTGTGGAT | CAGGTGAACC | ATGAATTGGC | TAAGAACCGT | CTGTGCCGGG | 720 |

1620RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAAACATA | TTTCTTGTTT | TGTTGGTGGA | AGCATACTTT | CGTCAGTACT | AACTTCTTCG | 60 |
| | CTCCACTCCA | TAAATTCGTA | TTCCCTATTG | GGATTAAATT | CCGGACCCAA | GGTAACGACC | 120 |
| | AAAAACATTA | GAGCAATAGA | TCCCCACACA | AAATAGGCCA | TAACCTTACC | ATAATCATAC | 180 |
| 20 | AATTCTTTAT | TGCCATTATC | GAGTGGAAAA | TTTCTTGCAA | GGCTGCTTTC | AAGCAACGAT | 240 |
| | GAGGGGCTAG | ATGCCAAGTT | TCCCAATTGA | TATGCCACGC | CCACGAAAAA | GGTTTTCTGT | 300 |
| | TCTGAGTTTG | GAGCTAAGCA | GTGTAAATGA | TGTGGGACAA | GGCCCCATGC | TCCTTGAACA | 360 |
| | AAAACTGTA | GGAGAACAC | GGACACTATA | ATACTTCTAT | CATGTACAAA | TCCCCACGGA | 420 |
| | TAAACAAGAC | AGGCAGCCAA | CAAAATACAC | ACGAGGATAA | CAACTCTTCT | AGAGCTTATG | 480 |
| | CTGGAAAAAC | GTGAAATGAA | AAGTCCACCT | ATTATAGCAC | CAACGTTGGC | TGCACAATTT | 540 |
| 25 | GTGACGGCTG | ACTGATTGGG | AGAATAACCA | AGTTGTTTAA | TGAGCATGGT | TGGAAAGAGA | 600 |
| | TCTTGAGACG | CATGAGAAAA | GTAATTATAA | CCCGTCATAA | GCAATATCAT | GTAGATGACA | 660 |
| | ATGT | | | | | | |

1620UP

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|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCAAATAA | AAATAGAAAT | TAGCTTAATG | GTAGAGCATT | CGTTTTACAC | ACGAATAATT | 60 |
| | TGAGTTTCGAT | TCTCAAATTT | CTAAATAATA | ATTAACAATA | ATTTAAATTT | GGGTAAAAAT | 120 |
| | TAATAAATAT | TAAAGTATAT | AATAATTATA | TACTTTATAA | AATTACTCAA | TGTTATTAAAT | 180 |
| | AAATTTATTT | CTTATCATTA | ATAATGATGT | ACCTACTCCA | TATAATATAT | ATTTTCAAGA | 240 |
| | TTCACTACTA | CCTCATCAAG | AAGGTATTTT | AGAATTACAT | GATAATATTA | TATTCTATAT | 300 |
| 35 | GTTACTTGTT | TTAGGTTTAG | TTTCTTGAAT | AATAATTATT | ATTATTAAAG | ATTATAAAAA | 360 |
| | TAATCCTATT | CTTTATAAAT | ATATTAAACA | TGGTCAAATA | ATTGAAATTA | TTTGAACCTAT | 420 |
| | TTTACCAGCT | ATTATTTTAT | TAATAATTGC | ATTTCCATCA | TTTATTTTAT | TATATTTATG | 480 |
| | TGATGAAGTT | ATTTACCCAG | CTATAACTAT | TAAAGTTATT | GGTTTACAAAT | GATATTGAAA | 540 |
| | ATATGAATAC | TCAGATTTTA | TTAATGATAA | TGGTGAAACT | ATTGAATATG | AATCTTATAT | 600 |
| | AATTCCTGAA | GAATPATTAG | AAGAAGGGTC | AATTAAGAAT | GTTAGATACT | GATACTAGTA | 660 |
| 40 | TTGTTATTCC | TGTTGATACT | CATGTAAGAT | TTATTGTTAC | AGCTCCTAGA | TGTTATTTCAT | 720 |
| | GAATTTT | | | | | | |

1622RP

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|----|------------|-------------|------------|-------------|-------------|------------|-----|
| | GATCCGTGTA | TTTTTTATTT | ACATTATTTA | ATTAAAAATA | ATGATTTAAA | TAAATATTTT | 60 |
| | TTATAAAAAA | TAATTAGTGC | ATTGTTACAT | GTTCAATAAA | GAATGATTAT | TATCAAAACC | 120 |
| 5 | ATCAACTAAT | TGTTATATAT | TTATTAATAA | TTAATTTTAC | TTAATTAAGA | ATTAGGAACT | 180 |
| | TTATCTATTA | GTCTGGGCTG | TTTCCCTTTT | GATTATTAAC | CTTATCGCTA | ATAATCTGAA | 240 |
| | ATATTTAATT | TTAGATTAAAT | AATATATTCT | GAGATTTAAT | ATTTTTTAATA | AAATAAATAA | 300 |
| | TTATTCCCTA | AATAATATTA | ATAACTATAC | CATATATATC | TAATATTTAA | ATAATCATAC | 360 |
| | TAACATATGT | TTCGTAGAAA | ACCAGCTATT | TGCAAAATCAG | ATTTGACTTT | CTCTACTTAC | 420 |
| | CATTATTCAT | CAGATAATAT | TGCTACATTA | ACCTGTTCAA | TCGTTTTTAT | ATTTTATTAT | 480 |
| 10 | ATTTTAAATA | TAATAAATAT | ATATTTTAAT | CATTTGATAA | TAGTAAGATC | ATCTGCTTTC | 540 |
| | GGGTAAATTA | ATATTAACATA | AATTTAATTT | ATTTTAATTA | ATTTTAACAT | TGTTAAATAT | 600 |
| | TTATATTATT | TTTAATATCA | TTTTTTATTT | TAATATTATG | CTAATATTAA | TTACTTGCTG | 660 |
| | ACCCATTATA | CAAAAG | | | | | |

1622UP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCCAGTTA | CTTAGTAGAA | TGATAAAATT | AATAAATATT | ATTTATTAAT | ATTTGGTTAA | 60 |
| | CAATAAAATT | CAATAATTTA | TTTAAATAAT | GATTAAATAA | TCTCAATATA | AAATTATTAA | 120 |
| | TATAATGAGA | TATATATTTT | TAAAAAGAAT | ATATAATTAA | ATAATCCCAA | CCAAAATTTG | 180 |
| 20 | TGCCAGCAGC | TGCGGTAAGA | CAAAGGGGGT | TAGCGTTAAT | CGTAATGGCT | TAAAGGGTTC | 240 |
| | GTAGAATGAT | TATTTAAAT | AAATAATAGA | ATTAATAAAA | ATAATTTAAG | AATTATTCAA | 300 |
| | GTAAAGATGA | AATAATAATT | ATATGAATAA | GACTTATAAA | GTGAAAATTT | AAATTATATA | 360 |
| | TTAATTGACA | TTGAGGAACG | AAGGCTAAAG | TAGCAAAATCG | GATTTCGATAC | CCGAGTAGTT | 420 |
| | TTAGCAGTAA | ACAATGAATA | CCTATTTATT | TTTTATTAAT | TAAAGAATAA | ATTAAATGAA | 480 |
| | AATTAAAGTA | TTCCGCCTGA | TGACTACGTT | AGCAATAATA | AAAATCAAAA | CAATAGACGG | 540 |
| | TTACAGACTT | AAGCAGTGGA | ACATGTTATT | TAATTCGATA | ATCCTCGATA | AATCTTACCA | 600 |
| 25 | TTTTTTGAAT | ATTTAATTAT | AATAATTTAT | AATTAATTAC | AGGCGTTACA | TAGTTGCTCT | 660 |
| | CAGTTTCGTGC | TGCAAAGTTT | TAGAAATTTAT | CATAAACGAA | CATAACTCTA | AATATTTT | |

1623RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCACAAATC | GCATGGTATG | ATCGTTTTAG | AATCAACGAA | ATATGACAAA | ATGAAGGAAC | 60 |
| | ATATTGCCAT | AAGGACTTCA | GGTATTACAG | TCGCAGATAT | TCTATCGAAG | TCCACTGAGT | 120 |
| | ATGGTTTAGT | ACCTATACCA | AAAGAACAAT | TTGAACAGAT | TAAAATGGAA | TTAGAGCATC | 180 |
| | CAAAGTTTAC | TAGAGAGATG | ATTGTTGACC | ACGCTGGTGA | CTTCGACTTA | ATTGCAGTGG | 240 |
| | AATTAAAGGA | ATACAATCGC | CTCAAAAAGC | AATCGCAGTT | CTCCTTTGGT | GACATTTTCG | 300 |
| | ATAGCATTAA | CACTGACGAG | GAAAGTGAAG | CATCTGATTT | TGAATATCAT | GATGACGAGA | 360 |
| 35 | TAAAGCAGCT | TAACAAGACA | GCCAAACGCT | TTGGGTATT | ATGTATTCCA | GAAGCTGCGT | 420 |
| | TTATCGCTAC | TTCCGTCGCT | AGCACGCCTG | ATGTCGATAA | TGTCGTCGTG | CTACCAATAA | 480 |
| | GCTACTATAA | TAAGTTGATT | GCGAATGAAG | CAAAGAGCCT | CGAAAAGCTG | ACTGACTGGG | 540 |
| | ATCTTCAGTC | AGAAGCTAAA | AAACGTGGCT | ATCATATAAA | TTTCAGCTTC | CAGAAGGAGG | 600 |
| | ACGCCCCACC | GCCGCCCTCA | ACCTATGTC | CTCCACGGAT | GCCGAAGTTT | TCCCCAAAAC | 660 |
| | CGTTTCGACTT | TGTCACTAGA | CTCAAAAAC | ACTAGAAGGG | CGTTTAATGA | GGCTGCTACT | 720 |
| 40 | GTGCGCGCAC | AGAGCGAATT | TGAACAG | | | | |

1623UP

| | | | | | | | |
|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCAGCGCA | AAACACATCT | GTATTCCCGAG | CAGCATGTCC | TCCTCCACCT | GCCGCATGGC | 60 |
| | CTGGCTTGCA | AAGCCGTCCA | CCTCGCCGTC | AAATGAAATG | CTGTCCGGAA | TATTCTCCAG | 120 |
| 5 | TTTCGCAACC | ACAGGGTTCC | CGTGCTCGTC | GTACTCCTGT | TCCTCATCCT | CCTCACCTGC | 180 |
| | CTCGTCTCCG | CCGCGCACGT | CCCACGGCCT | AATGCTCAGC | TGCGGAGCCT | CCTCGGGATA | 240 |
| | CCGCTCCGGC | AGCGTAATGT | CCACCACCAA | GTGCTGCTCC | TTGCTGATCG | CAGCCGCCGT | 300 |
| | GAATGAAGAG | CTTGCCAGCG | GGATCAGATC | CAGTTTATAG | TCCACTTCAA | ACTGGATTTT | 360 |
| | CGGGTACTCC | CCGCACACCA | CCGTCAAGTC | ATCGGCATAG | ATGGACTCAA | GCACTTCCAG | 420 |
| | CTCCTGCTTT | TGCTCCTCCT | GATAGTCCAT | ACCTATCCGC | TCCACCAACT | ATGAGCCCAC | 480 |
| 10 | GCGCAGCTTA | GGGCTAGACC | GTTACAGCTG | CAGGTGACCG | TCCGGGGGAC | GATGCGCTAT | 540 |
| | CGCTGGCGAA | ATTTTTTCGCC | TATACCACCA | CTTATGTTAC | CCGGTCTATA | GTGCTGCTCT | 600 |
| | CCGACCTCAC | TGATGGTGCT | GTCCCGCGGG | GACTGCTGCC | TCGTGCGGGC | AAATCCCCAC | 660 |
| | CGCTCTGAAC | GCTCGTTCCA | TCTGCGTCAC | GGGTTGACCG | AACGGGAATT | GCGCGCGCCG | 720 |
| | AGAAATCTTG | GCGAACCATG | CTGCACCTAG | CCTTACTG | | | |

1624RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCGCACGT | CATTTTACCT | ACAGGCTGGG | CTTTTGAAGA | AGACGCCTGC | ATGGTACAAT | 60 |
| | GTCTAGCCCA | GGATCCCACC | TGTGACCAAG | TTCCGCCAGAG | AACCGAAGCT | GCATGACCCA | 120 |
| 20 | GTTAGCCGCA | AGTACAAGGG | CGAGCTGGAT | ATAATGACGG | ATAGATTAAA | CAGAAACACA | 180 |
| | GAGACGTACA | AGACACGGCG | TGGGAGTTCC | GACCGGCAGA | CGGCCGCGGT | GCACAAGCCT | 240 |
| | TCTAAGCTGC | GGTTTATCGA | GGACAAGCTG | CGGTCCGTGT | TTTTCCAGCA | GCATCCCTGG | 300 |
| | GAGCTGTCCG | GGCCGAAGGT | GCTGGTGGAG | AACATGGGAA | ATGAGCAGTA | CGACTGGTCC | 360 |
| | CGGATGTTGC | AGCTAGGCAA | CCCGCTTGAC | GGTGAGTCTG | TGGTGCAGCG | GACGCTGTAT | 420 |
| | CTGCTGAAGT | CGGGCGCGCA | CCGGGAGATG | CTGGCGGCAT | ACGACCAGGC | GCGGTTTGAG | 480 |
| | TTCTATCGTC | TGAGGATGCA | GCAGGAGCTG | GAGGAGCAAA | TAGCGTACGA | GGAGGCCACG | 540 |
| 25 | ATGGTTGGCG | CTGTGTTCAA | GACAACCGCT | GTGGAGCACG | GTCTGCAGCA | AGAGCAGAAG | 600 |
| | GTCCCTCGACA | AGTGGAAGGA | GGACGTGGTT | GCGGGGTTGC | AGCTGATGTC | TGCGAAGAAG | 660 |
| | AACTCTACAA | AGCAGTCGTG | GGCCGAAGCC | | | | |

1624UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCATATAT | CTTCCTGTGG | TAAGGTCTGT | GGGAAGCAGC | TCTCCTGCGG | GAATCACACT | 60 |
| | TGTCCCATGA | CCTGCCACGA | TGGTAACTGC | ATGGATCCAT | GCCTCGTTAT | AACTGAGCAG | 120 |
| | AAGTGTGCAT | GCGAACAGAG | GCGTTTCCTT | GTTCCTTGCC | AGTTCCCCCA | TTCCCCAAGT | 180 |
| | TGCATGTCAA | AATGTGAATC | ATTGATGTCT | TGTCGTCCGC | ATCGGTGCGC | TGAAAGATGC | 240 |
| | TGTTCCGGTA | GACCGCATTC | TGTCAAGCGG | AACTCTAGGC | GGCGCCGTGA | GAGTCCAGAT | 300 |
| 35 | GATGAATCTG | AAGTTGAGGC | CCAGCACGTG | TGCTTAAAG | ATTGTAATCG | GGTGCTGCTT | 360 |
| | TGTGGTATCC | ACATGTGCAA | TTACAAATGC | CATGCAGGCA | AATGTCTCTC | CTGCTTAGAA | 420 |
| | TCAGATTCCA | ATGACCTTAT | CTGTCCCTGT | GGTAAGACAA | TGCTACCAGC | CCCTGTCCGT | 480 |
| | TGTGGAACAA | AGCTCCCTCG | CTGCACTCAT | CCATGTCGAA | ACTCGCTGCT | GGTACTTGG | 540 |
| | CCCTGCGGAC | ACAGTCCACC | TTCCGCATAA | TGTCATCCCT | TAGATGAACC | TTGCCCCCA | 600 |
| | TGTACCATCA | CAGTCAAGAA | AACTTGTCCG | TGCGGTAAAA | ACGAGATCAG | GACATTCTGC | 660 |
| 40 | TACAATGATG | ATGTGTCTGT | TTCCGAGACG | TGTTAGAAGC | CATTGTCTTA | TTGCAATCAC | 720 |
| | TTCTGCCAAG | TTCCCTGTCA | TT | | | | |

1625RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCAACTAC | GAGGACTTGA | CGACCGCACG | ACGGGAGCTC | GCGGCCGCGC | TGGCCACTTT | 60 |
| | GGAGAATATG | TAGCGCACAA | CATCAGCAAT | GTTACAGTAC | AGACGTCTAT | CCGTGGGGTA | 120 |
| | CGGCTATGAT | GAATAGAAAT | ATATACACAG | CTGCCTGCAG | GCAGCTTAGA | AGCGCAGAGG | 180 |
| | CTTGGGCTTC | TCCCACGAGT | ACTCCTGGTT | AGTGAAGTGC | CCGTACGAGG | CGGTAGGTAG | 240 |
| | GTAGATGGGC | TTGGCGAGGT | CGAGCTCTTT | GACAAGAACA | CCTGGTCTGA | GGTCGAAGTT | 300 |
| | GTTGCGGATG | ATCTCGATCA | GCTCGTCTGT | GGACTTGGTG | CTGGTACCGT | AAGTCTCGAC | 360 |
| 50 | GTGGATGGAC | AGCGGCTCCG | CAATACCAAT | GGCGTAGGCA | AACTCAACCT | GCACACGCTT | 420 |
| | GCACAGGCCG | GCGGCCAACA | GCGACTTGGC | GACCCAGCGC | GCAGCGTACG | CAGCCGAACG | 480 |
| | GTCGACCTTC | GAATAGTCTT | TTCCGGAGAA | CGCACCGCCA | CCGACCCGGG | CGGCACCGCC | 540 |
| | GTACGCGTCA | ACAATGATCT | TTCTACCGGT | CAGACCTGCG | TCACCTTGTC | GCCACCGATC | 600 |
| | CGGACCGCGC | CGGACCGCTG | TTCTTATGCT | TGCTGTTTTT | GTCTAGCATG | TGCGCAGGCA | 660 |

| | | | | | | | |
|----|------------|------------|-----------|------------|-----------|------------|-----|
| 55 | TGACCTTGCC | TACGATGCGA | TGCGCAACG | CGGAACGCAG | GTCTCGGTC | GAGATGTCGT | 720 |
| | CCGCG | | | | | | |

1625UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGCTC | TGCGCCATCC | CAAACAACCT | GGGTGTTGAC | AAGAAGTACT | ATGATGAGCA | 60 |
| | CAAGAAGGAA | TGGGCCATGT | ACCAGGAGAT | GATGAAGCAC | TATGCCAACG | AGGACCTTGT | 120 |
| 5 | CGACACCAAC | ATGCAGGGCG | GGTTTATCGT | CGCGCCGCCA | CTCCACGAAA | TAGAGCTGGA | 180 |
| | CAACTTCCAG | CTCGGCGTCT | ACAAGGAGCT | CGTAAGTAGC | ATGTTCCCTT | GACTTCATGG | 240 |
| | AGTCCAGCAT | CGCCCATGTT | TTATGCCCAA | TACTTPTGAG | ACTATACCTA | TATTATATAC | 300 |
| | TGATAAACAA | TTTCCCGCGC | TCTCTCACGC | CCACTACTTG | TTCTCCGCGT | AGAAGAAGTT | 360 |
| | CACGGCCATC | AACTCGAGGT | TCTTCTCGCC | CGCAAACCTG | CCCACACCCA | CAGGGGGCCG | 420 |
| | CTTCTCGGTG | TAGCCCCAGT | TCACGCGACT | CTGCAGGCGG | GTGACCTCCT | CCTCGCTCAG | 480 |
| 10 | TTCTAGCCGC | CCGGGCTGCC | GAAACAACAA | CCACACGTAC | CGGTGAGCCC | CTGTGCCGGC | 540 |
| | CGGCGGCGCA | GGGCCCATGT | GCTCCACCTG | CGGGGTGCCC | TTTAGCACCA | CGTGCGACAC | 600 |
| | CCCGTCAATC | GAGCCCAGCG | TTATGTTTCT | TTCCAGAAAG | TGGCAGTATT | CCGACCACTT | 660 |
| | GTGGTCCGAC | CGCGAGGGAG | CATCTGGGTC | TGTCATCCCC | AGCGTGAATA | GGTCCCTCTC | 720 |
| | CTGACG | | | | | | |

1626RP

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|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCCGTGGG | GACCATGCGC | AGATGGCGCC | CTTAATATAA | GCCCCCTCCTC | GCAGGCATGA | 60 |
| | CGTCTGCCAA | CTCCGACCAT | TCTAAATGGC | CAGCTGCTGC | TTTGATGGTA | GCGTCCGCGG | 120 |
| 20 | CTGGCGCAGA | AGTAAATATA | GCCATTAAAT | CCCCCTCTAA | ATATACATTA | CATACACGCG | 180 |
| | CTCCAGAGGC | GCTCCCGAGG | CGCTCCCGAG | GCGCCCCACG | TCTCGCCGCA | GCGACGCGCG | 240 |
| | TGCGAGCTGG | CCCTCTGGCC | ACGCAGACAT | GCGCGCCGAC | GCGCCCCACG | TATATACAGC | 300 |
| | CTGGCCTGTC | TCATATGCAG | ATGGGTCTGA | GCGAAAGAAG | TTCTCTGCTC | TCCGAGAAGC | 360 |
| | AGTCGTCTGT | ACCCTCGCGC | TCCGCGCCCA | ACCGCGCAGC | AGAGAATCTT | CCAGCGCTTC | 420 |
| | CCGCCGACCC | GCACTCGGCG | TACCCGTGCA | GGTAAGGATA | CTTCGCGGCC | GCCGCGGCAC | 480 |
| 25 | CACCGCCCTC | AGCCTGACTT | GCGCAACGCG | CATACGCAGA | GGACCCGCGT | GCCTCCGCGC | 540 |
| | TTTCGTGCCT | GTGCACGTGA | TCTCACCGCC | TGCCTCAGCC | GCCCTCGTCA | ACGATGCGCA | 600 |
| | CCAGACCCTC | CAGAGCGTGC | CTTCGTGCCC | AAGTCGGAGC | CCA | | |

1626UP

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|----|------------|-------------|-------------|-------------|------------|------------|-----|
| | GATCCATGCA | TATTTGCGAA | CTTACGAAAA | AAGGCGTGAA | GAGGCGGAAC | GTAATCTAGG | 60 |
| | TTTGGAAGAA | TTAATGAATG | ACAACATAGA | CCTTGTTACA | GGAGAAAATA | ATGAAGAACG | 120 |
| | CCAGCTGAAA | CAAAAGAAGT | TGTTAGAGGA | GCAGTTGGCA | AAGTTGGAGA | AATCAAAGGA | 180 |
| | AAGACGACAA | GCACGCAAGG | CCGCGAAGGA | GAAGAGCAAA | GATGGCAAAG | TCGTGAAAGT | 240 |
| 35 | AAAAAACACC | ACGCGACGCT | GCGCAACATG | CGGTGCGATC | GGGCATATCA | GAACATAATA | 300 |
| | ATCCTGCCCC | ATGTACAAATG | GTGGCGTTGC | AGCAAAACGCA | AACGCAAACG | CGAATGCGTC | 360 |
| | GAGTGCAGCA | GCTGCAGGTT | CTTCAGGGAT | GGCCTCAAAAT | AATAGCGCTA | CCAGCAAGTC | 420 |
| | TATAACTCCT | AATGCCAGTA | TCCCGCCGAC | TTCAATTCGAC | TAGCTCGCAG | TATAATATAT | 480 |
| | ATCTAATATG | TACCAATTGT | ACTTCTTTTCG | ACTGCTATAG | AACTTTCTCC | TCTTCTTGCA | 540 |
| | TCACATGTGC | AGCACTGCAG | CACCGTGCAG | CTCGCAATAC | TTATGGACCG | CGGCACGGTC | 600 |
| 40 | GGCCTCGTAT | CCAGCGTACG | CTATGTATCC | TGCGGGACCC | TTATTCGTGC | GCGACACGGG | 660 |
| | ATAGTGACA | GACTCCACAG | AAGTGTCTCT | TACAATGCAG | AAGA | | |

1627RP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCTTCCTT | GAATTTACTT | AGCAGCTCGT | TAATTTCTCTG | CTTCTTCTGC | TCTCTAAGCT | 60 |
| | GGAAATCTGTA | AAAGTCCTGC | TTGGCCTTCT | TGTCCACCAT | GCTGGGAGGC | TTCTCCTTCC | 120 |
| | GTGTATGCTT | AAGAAGTGGA | TTGCGGTTCA | GAATCCTACG | CCTTATGGAG | TTTAACGATT | 180 |
| | TTGTGTCTT | CCCTACTACA | AGTGTGAACC | CGTCTCTGTC | CACAATACTC | GATTGAACCT | 240 |
| | CATCCTGCGC | AAGTTGTTCC | CGTTGCTCAA | ATAACAACAT | ATGCTCGTGA | ATGTCGCTGC | 300 |
| | GCAAGTACTC | AAGGTGAGT | GGCTTATAGA | AGCTCTGGAA | GGTCGCTATC | GAAGGAGACT | 360 |
| 50 | GGAAACGCCA | CTCCACCAAT | TCCTTTTGTG | TGTGCGCGTA | TTTGGCGAGA | GCAGCCCAGC | 420 |
| | AGTTCTCCAG | AGATGCCTGG | TCCACAAACT | TCAACAGAGC | ACTGTTTCTC | GGTGTATACC | 480 |
| | TTCTGTCTCT | CGCATCCCGG | GTGTCTCTGA | AATCGGAGCT | CAGCGCACCC | AAATCCACCT | 540 |
| | CGTGCAATCC | GAACCTGTCG | TGATGTAGCA | GCTCTGCCAC | ATGCGCCACA | GTCTCGTACT | 600 |
| | GCGCGCAAAAT | CCTGCCAAAG | CTCTCCTTGA | TAGAGTCGAC | CTGTGTCAAC | AGAGGTAAAT | 660 |
| 55 | TGACAATAAA | CAGGCAATTA | GCCTCCGATT | CCACCTTCGT | CTGATGCTTC | CTC | |

1627UP

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|----|------------|-------------|-------------|------------|-------------|------------|-----|
| | GATCTTTGAG | ACGCGGCGCTG | GAGAGTTTGT | AGCAGATTGT | TGACCAACGC | ATAGCAGATG | 60 |
| | CTAGACCTGA | GTCATACACC | CTCCGTCTTG | TTGGAGACAC | GGAATTGCTA | AATTCAAAA | 120 |
| 5 | TAAAGGAGGA | GGCAGATGAA | GTGATTGAGG | CTATAACGCC | AGCTGAACCTA | CAATGGGAAG | 180 |
| | TTGCGGACTT | GCTGTATTTT | CTCATGGTTA | AAATGAGGAG | CAATAATGTG | ACTTTAAAGG | 240 |
| | AGGTGGAAGC | CAACCTAAAC | ATGAAGCACA | TGAAGATTAC | GAGACGGCCT | GGAACCGCGA | 300 |
| | AACCAAAGTA | CCTACCCGCG | CAGGAGTGCC | AGAAGAACAA | GGAAACTCCT | GTAGATATTG | 360 |
| | CACCATCTGC | CATTTACTTG | AACGTCGTAT | CCTCAGATGA | TGAGGCCGCA | TTGAAAACAG | 420 |
| | CAATTACAAG | GCCAAATTCAG | AAAACCTACTG | ATATATTAGG | TCTTGTGAG | CCTATAATAA | 480 |
| 10 | AAAAAGTGAT | AGAGGAGGGC | GACAAATGCGT | TGACTGAACT | AACAGCGAGG | TTTGATCGAG | 540 |
| | TAAAGATAGA | AACACCAGTA | CTAGAGGCTC | CTTTTGGCGA | CGAGTATTTA | AAAGGATTAA | 600 |
| | CGGAAGACGT | CCGTACGGCC | ATAGATATTT | CGATGGAGAA | TGTCCGTAAA | TTTCATGCCG | 660 |
| | CACAGCTGAG | AGACGATATT | CTCAAGGTGC | AAACGCAACC | GGGGGTGGTA | TGTACGAGAT | 720 |
| | CCCAGGCCA | TAGAGA | | | | | |

15

1628RP

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|----|-------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTGCCCC | TTTAAGCAAC | CACATATTAA | GCCGCTGACA | CACAGACTGT | CAGCGCTTAG | 60 |
| | AAATACTTTCG | GTGAGTGTTT | AGAAGCCCGA | GCGCTCGGAG | TTATTTCATGA | TCACGTGATG | 120 |
| 20 | GGTATTGACC | TTGCGATCCA | CAGACAGGCG | GAAATATGCA | TATATGTAA | CCAAGATGCC | 180 |
| | GGCAACCAAT | TGGTCTAAT | GTAAATGCATA | ACACTGTATT | CCGCGAAGCG | GCTCTGAGCA | 240 |
| | TGTATGGTAT | TCGGCTAG | ATTGTCAGCC | CACGTATATT | TCACGTGAC | GCCCTGATGC | 300 |
| | TATTTACAAC | ATAATCACTA | TTGACGAGCA | AGGATAGTGG | TCGCACGTTA | CGAAAAAGAA | 360 |
| | ACGTTGAAAA | ATTTGGATGG | TGGTGATGAG | GTAGAGATAT | TAACGTTAAT | GGGCGAGCAC | 420 |
| | GAATTTGGTC | GAAGTTCTAT | ACTGCCAACG | ACGTTCCGAG | ATTGCTGAGT | TGATGGGTTT | 480 |
| 25 | CAAAAGTATT | AAAAAGGCGG | TAGTCCCTAA | ATTATCGGAA | AAAGCCAAGG | AGGAAGAGTT | 540 |
| | GAGCACTTCG | GGCTCCTCTG | ATTCTACTTT | AGAATCAAGT | TCATCTTCCT | CGTCCGAGGG | 600 |
| | CAGCTCCAGC | AGCAGCTCTA | GTTCTCTCCG | ACAGTGAATC | GAGCTCTGTC | GACAGCGGCT | 660 |
| | CCAGCTCTTC | TAGCAGCAGC | TCGAGCTCCT | CCGGCGAATC | GGGCTCC | | |

30

1629RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCCAC | ACTAGGCTGG | GTCTTACTGT | CCATGAATAG | CATTCGAAGA | ATGGAGGAAT | 60 |
| | CGGTCTTCAA | GTCAGCGGGG | AAATTTTCAG | GGCAATATAA | TGGTTCCCAA | GTATTTAGAA | 120 |
| | CTTCTCGACT | GTCGTCACTA | CTTGGCCCTT | TTAAATCGGC | TGTTCCCTTT | GAAGATATAC | 180 |
| 35 | ACCATTCAAT | CCAGTGTATC | GTACCCGAAA | AATTAGCAGT | AATGGCACTT | GGAACATCAT | 240 |
| | CCGGAATCGT | GTAAGCACTT | GCAATAACTG | AAAGCTTTGT | AAGAGAGGTA | AAAATCGGTG | 300 |
| | CGCGCGTTCC | AAAATTGTCC | AATTGTGAGA | TTTGTGATC | TTTATTAGGC | CTACTGGCCA | 360 |
| | GTTCCACTAG | TGATCTAAGC | GGGCTTATTT | CAGTGGTTAG | AAATTTATCC | TTCTCAGTTT | 420 |
| | TCGACTTACA | AGCAAACTCA | GTGAACAAAG | GGGGGTATCG | ACGAGCAGCT | CTTGTGTAAG | 480 |
| | CTGCTGAGGT | TTTCCCTTGT | GAAATAACAT | GTTCTTTAGT | TTTATGTAGG | GCTCCAATCC | 540 |
| 40 | ATGCCGTTAA | CTCTTTATAA | CTGGTTGCTT | GGAAAAATTA | AGTACCAGAG | TTATTAGAAT | 600 |
| | ATTCTTCTCG | AGGTGAAGAA | GTAAATGGAG | AAGAGATAGT | CATTCGAAAG | CAGTATTTAC | 660 |
| | GTGCCTCTTC | TGGATGGTGC | ATGGCACTGA | GTAATAATAC | TCCAAATCTG | TCCGTTTCTT | 720 |
| | CGACTGCAGT | TTT | | | | | |

45

1629UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCTCGGCT | CGCTGCTCGC | GCTCGAGCCC | TACTGGGCAG | AGCGCTACCC | AATAAACAAAC | 60 |
| | GCCCTAATCG | GCGGTGCAGA | TAAATTGCAC | AAGCTCTACT | CAACCGATTT | TGCGCCCATC | 120 |
| | GTCGCGGCCA | GGACTTTCGG | CTTGAACCTC | GTCGACAAGC | TTGGACCGCT | GAAAGACCTC | 180 |
| | ATAATGGCAA | AGGTTCAGCG | CCCAAATTA | TAGTCACGTG | TACATAAAGG | TTTTCTTAAT | 240 |
| 50 | AGTATACAG | CTTGCCGCG | TCCTCAGCTT | GCAGCGCGCA | ACCGCGGTGC | AGCCATGAGC | 300 |
| | GTCTTACTGG | AAACTACCAT | TGGCGACCTT | GTAGTAGACC | TGGACTACAA | GACATGCAGC | 360 |
| | GCCGAGAGCT | ACAACCTCCT | CAAACCTCTG | AAAACCTCGT | TCTACGACTG | TCAGTGCATC | 420 |
| | TACGACCTCC | ATCCTGAAGG | CTCAGCACGC | CTCGGCGATC | CACAAGTGGG | CTTTGCATTC | 480 |
| | CGCACGGATT | TGCCTGTACA | CAATACCTCG | ATCGAAGGCC | TGCGCGACAC | ACGGGCGGTC | 540 |
| 55 | ACCCCGAAGC | TCATTGAAGC | CTCCGTTGCC | GCTCAACCCG | CAGAGCGCTT | CGGACAGGTC | 600 |
| | CGGCTGCTGC | TGCAAGCGCG | CAGTCCGCTG | CTGGGATGCA | ACGCTACTGCT | CGGCTGTAAT | 660 |

CCCGAACTCG GCCCCACATC AACACAGTGC GCTTCGCGCA GGTCATCGAC GAGTCGCTGG
CAGTTCTGCA GCAGCTCAGC GA

720

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1630RP

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|----|-------------|------------|------------|-------------|------------|------------|-----|
| 5 | GATCGACTTT | CAAACATTAT | TATACAGATG | GAGGGCATCT | CACATCTTGC | ACAGCAAGAC | 60 |
| | GGCAATCCAA | CAGGTTCTGT | AATGCAGCCT | AAGAGGCGAA | GGGTTGAAGA | TGGAGCGTCT | 120 |
| | AGTGATGGAG | AAGTACGAGG | AGAGATAAAG | CGCAAGTATG | GTATTGGCGC | GCAGTTGATG | 180 |
| | GCCAGATGG | GATATAAGGA | GGGCAGCGGT | CTAGGGAAAAG | AAGGTACGGG | ACGCACGACG | 240 |
| | CCGATATTGG | TATAGCAGCG | GCCGCAGGGC | ATGGGGCTTG | GAGCCAACGT | CTCCATTTC | 300 |
| | TCTGACTCAG | AGCAGAGTGA | GGTGGAGCTT | GTGACTCGCG | AGGCAGTGAA | GTTTGAATCG | 360 |
| | AAAGGTGTGG | AGACTGACAC | AAGCAGAATA | GCAGACAAGA | TAGCAAAGCT | GGAGATCGCA | 420 |
| 10 | GGAGTGCAAG | TCCCCGCGA | AGTGATGAGT | TTGCGTTCTG | GGACAAAGAC | GCTGGGTTAC | 480 |
| | CAACGGGCTG | CAGCGATGGA | AAGGGTGCTC | TCCGAACTGC | TGCAGGTGGG | TGAGCAACTT | 540 |
| | GCGACCCCTAC | AACTACGCGA | AGATCAGCTG | CAGCAAGGGC | TAGATGCGGC | CATTGAGAGT | 600 |
| | AGTGACCTGT | TGAACAAAGT | CTCAACGCGC | TGCAACAGCC | GACTGCGCTG | CCGGAGCGGG | 660 |
| | TAGCGGCATA | TTGGCCTTGG | AGGACCCAGA | AA | | | |

1630UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 20 | GATCGTCGCC | TCATCGGTGA | GCTGCGCCCC | ACGGGCGAAC | CTGGCAGCCT | GCCCCGCGAC | 60 |
| | CCGCGCGCGG | TGGGCGAACC | GCGTCCAGTC | GGCGAGCCCC | GTGGTCCCCG | GACCATGGTT | 120 |
| | ACCGTATCGT | CCCCGACAAA | TGGCGAGGGG | TAGATGATGC | CCTCCTCCGC | CTCCGGCGTA | 180 |
| | CCGCGCGCGT | CCGCGGTGTG | CGCCTCCTCT | GTCGGGCTTG | CCCGCGTCCC | GTCCCCAGAC | 240 |
| | AAACGGTGCC | CGGCCGGCAC | CCCAACGCCG | AGGCCTTCCG | CGGGCGGTGG | CGGGCGGCCG | 300 |
| | CGGCTCCGCG | CTCCGCCAAG | GCCCTTGCCC | TGACCCAGTC | CTGTAGGTGG | CTCGTGGTCA | 360 |
| | TGGAAGGGCG | TCCAAGCAAT | TCGTGTACGA | TGATCTATGC | CAGCCGCAGC | CTTCGTCAAC | 420 |
| | AGCGGCGGCA | GCTGCGGCAG | CTTGGGTTTG | GTCTCGTCCA | TATCGTGGTC | TGGGTCTCTG | 480 |
| 25 | TAGGCATCAT | ACATCTCCCG | CTATCTTTCT | CTTGCGCCTG | CACCGGTACC | GTGCATTGGA | 540 |
| | AACGCTGCTC | CTGCCCCGAG | GCAGTTCTAT | AACGTTGCCA | GTGAAAATCG | TGCAGTACGG | 600 |
| | AACAGTAGCT | CATCGCGCAC | CAGGCGAACA | CATAGGCAAC | AGCTTCGGTG | TAGCGGGCTG | 660 |
| | CGGGCCCGAC | CACGATACTC | ATGTTACATA | GACTCACATG | ATCAGGCAGC | AC | |

1631RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| 35 | GATCTAATTT | ATTTACATTA | ATTAATAATT | AATAATATTT | AATAATATTC | AATAATTTAT | 60 |
| | ATATTTTATT | ATATTTAATA | ATTATATAAA | TACTTTAATT | ACATAAATAC | TTTAATTAGA | 120 |
| | GAGTTAGGGT | TCACCCCCCT | AATGCTTATC | AGCATTATGA | GGTACCACCT | TAATTAAAGG | 180 |
| | TAAATATATA | TATTTAATAA | TAAAAGGATA | TAGTTTAATT | GGTAAACTA | TTGACTTCAA | 240 |
| | ATCAATCAAT | AAGAGTTCAA | ATCTTTTAT | CCTTGTTATA | TTTTAATAAT | ATAAATTAAAT | 300 |
| | AAATAATAAA | TATGATAAAT | CATAATATTA | AAGATATTGA | TTAATATTTT | TAATTAATTA | 360 |
| | AATAATATGC | AATTAGTATT | AGCAGCTAAA | TATATTGGTG | CAGGTATTTT | AACAATTGGT | 420 |
| | TTATTAGGAG | CAGGTATGGG | TATTGCTATT | GTATTTGCAG | CTTTAATTCA | AGGTGTATCA | 480 |
| | AGAAATCCAT | CAATGAAAAG | TACTTTATTC | CAATTGTGTA | TTTTAGGTTT | GCTATTAGTG | 540 |
| | AAGCTACAGG | TTTATTCTGT | TTAATGATTT | CTTTCTTATT | ATTATATGGT | GTTTAAATTT | 600 |
| 40 | ATTAAATTAT | ATAATAATTA | ATATTCAAAA | TAAGTTATAT | TAGCTTAATT | GGTAGAGCAT | 660 |
| | CCGTTTGTGA | ATCGAAAAGG | TTAGGAGTTC | AAATCTCTTA | TGTAACAATT | TAATTAATTT | 720 |
| | AAATAAAGA | | | | | | |

1631UP

| | | | | | | | |
|----|------------|-------------|------------|-------------|------------|------------|-----|
| 45 | GATCTTAAAA | TAAGATAGAA | TGGTAATAAA | TATCATTCAG | GTACAATAGA | TGCTGGTGTT | 60 |
| | ACTAAAGGAT | TACCTGGAAT | ATAATTATCA | GGATGTCCCTA | AAGTATTAGG | TGAAAAGAA | 120 |
| | ACAAATAATG | AAAAGAAAAAT | TATAAATACA | AATACTGTGA | CTAAATCTTT | AAAAATAAAA | 180 |
| | TAACCATGCA | TTGGTAATCT | ATCTAAATTA | CCTGTAATAC | CTAATGGATT | TGATGAACCA | 240 |
| 50 | TGTACATGTA | ATAGCATTA | ATGCATAATT | ACTATTGCTG | CAATAATAAA | TGGTACTAAA | 300 |
| | TAATGAAATA | GAAAGAATCT | TATAATAGTA | GGATTACTAA | CACTAAATGA | TCCTCATAAT | 360 |
| | CATAGTACAA | TATCATTTCC | AATAAATGGA | ATAGCACTAA | ATAAATTAGT | AATAACAGTA | 420 |
| | GCACTCAAT | GTGACATTTC | TCCATATACT | AAACAATAAC | CTAAGAAAGC | TGCTGCTATA | 480 |
| | GTTAAATAAA | AGATAATAAC | ACCAACTGTT | CATACAATAA | CTCTAGGTGA | TTTATAAGAA | 540 |
| | CCATAATATA | AACCTTTACC | AATATGAATA | TACATACAAA | TAAAGAAGAA | TGAAGCACCA | 600 |
| 55 | TTAAGATGCA | TATATCTAAT | TAATCAACCT | AGTTGTACAT | CTCTCATAAT | ATGTTCTACT | 660 |
| | | | | | | | |

1632RP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCTTCGCG | CCGTTGCGGC | CCAAAACCCG | CAGCTCCCAT | ATACCCGTGT | TCAGGTTGAA | 60 |
| | GCTGATGCTA | GCGTGCTGCC | GCGACACCAC | TTTCGCAGGC | CCCAGGTCCA | TGTGTACTGA | 120 |
| 5 | CCGGTCCTGC | GGAGACGTGT | TCCGCCCGAT | ACTCGTCAAT | ATGTCCTTCA | CGTAGTACGT | 180 |
| | CCAGTCTCGT | CCCGATATCT | TGGCGTACGC | CTGTACTTCC | GTTGCCGTGT | TCTTGTCGTT | 240 |
| | CGAATATACT | TGCGACACTG | TGCTCGCCTC | CTTCGGCGCA | TCCAGCACCG | AAATCACCGC | 300 |
| | ATTGATCAGG | TCCTGTCTCC | GTTAGTACTC | GGTCTCGTGC | CGCCCGTCTC | GCTCCTACAT | 360 |
| | ACCTGCTGGT | GCTGCTGAGA | CGCAAATGGG | TAATTCATCT | CGTCGCCCTCA | ATPTCGCTCC | 420 |
| | TCCACTGGCT | GCCCCAGGGT | AACGTCGGAC | TTCCGTTGCT | GTGGAAGGGG | TGGTCGCTCA | 480 |
| 10 | GCGTAGCTCG | GTACAGCTGA | TCTCGGTCTT | AGTATCAACA | AAGCAAAAAT | AAAAATAATA | 540 |
| | ACAATAAGCT | TTTCACTGTG | TGTGAACGTC | CCAGAACTG | ATTCCAACGC | TCCAACACCG | 600 |
| | CACCTCTTGA | AGCAACCTCA | CGCACCCCTC | TGAATGACAG | ATCACCCCTCA | CTAAACGG | |

1632UP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCGAGACT | GTGATATAGC | TGTATAAGAA | GGTTTGGA | CCTTAGTAAA | TACCCAACCT | 60 |
| | TTTTAATTCG | AACCTTGATC | AGGTTTTATA | CTCAATTGTA | GCTTTGAGTT | GCAAATACCC | 120 |
| | GAGGCATAAA | ATCAAAGCGT | ACTTAAAAAC | AATCACTACA | TACAGTCCTC | CACACCCTGC | 180 |
| | CAGAGTGGAA | TAACATGAAG | AATAAATATT | AAGGACAGTA | ATGCTATAAA | TACATGTGCT | 240 |
| 20 | TCAAATAAAT | ATCTGATTCG | TAAGGGTTTT | CAAATTCGGT | TTGCGGCAAA | GAGTACGCAA | 300 |
| | TAAGTGGATC | TTGGGAAAGT | GATGGGGGCA | GATAACGACC | AAACAAAGTGA | GTTTCCACGT | 360 |
| | TACCTATATC | TTCTCTGCGG | ACAAAACCTGC | CACTGTTGAC | CATTGTTGTG | CTAGGTGTTT | 420 |
| | GATGTATGGA | TGGAGTATCA | GCACGTCGGG | TAGAGGAAGT | GGGAATTAGT | GAAACTAACG | 480 |
| | TCCCGGAGAA | ACTGGATGCC | ACACGATTGT | TTGGTAGTGT | GGGGGGCGTG | TTAGGATTTT | 540 |
| | TAATGTTGGT | TACTGGGGTG | CCTGATGGCA | ACGATGGGCC | AGAAAAGTAT | ACTTGCTCCT | 600 |
| 25 | GTGCTTTCAA | AGATGGGTCA | ACAGCCCAAT | TGTGAAAGAA | ACTGGCATT | CTAGTCTCAG | 660 |
| | GGATGCTAAT | AAGCTCTTGG | ACAGAGTTGT | | | | |

1633RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCAATTAA | TAAATGGTTT | AACTAATAAA | GTTAATAATA | AATCTATTAA | TTATATAAAA | 60 |
| | CTACCTGATT | TTATTGAATC | AAATAATATT | TTCTTAATGA | ATACTACTAA | ATCATCATCT | 120 |
| | ATTGAGTTTA | TATTAAATTC | ACCACCTCTT | ATTCAATTCAT | TTAATACTCC | TCTAATTCAA | 180 |
| | TCTTAAATAA | TTCTTAATTA | TTAAATTATA | TAATAAAAGT | TAGTGGATAT | AGTTTAATTG | 240 |
| | GTAAACATA | TGTTTTAGGG | ACATATATCT | TCAGTTCAAA | ACTGAATATC | TACATATTAT | 300 |
| 35 | ATCATTATAA | TAATAACTCT | TTAATTAGAG | TGGTACCACA | AGAATGCTGA | AAGCATTAGG | 360 |
| | GGTGTGTACC | TTAGCTCTCT | AATTAAAGTT | ATAAAATTAT | CTTAACCTAA | AAAAATAATT | 420 |
| | AATTAATAAA | AATTAAATTT | AATTAAATTT | AAAAATGTTA | AAAAAAGAAA | TAAATAATAT | 480 |
| | GTTATATTTA | AATAGATCAA | AATTTCAACA | ATTTCCATTT | CATTTAGTAC | TACCATCACC | 540 |
| | ATGACCAATT | GTTACATCAT | TTAGTTTATT | AGGTTTACTA | TTAATCTTAG | CTTTTACTAT | 600 |
| | ACATGGTATT | ATTGGTAATA | TTTATCCTTT | ATTATTATCT | TTATTAGTAG | TTTTATTACT | 660 |
| 40 | AATAACTTTA | TGATTTAGAG | ATATGGTAGC | TGAACCTTACT | TATTTAGGTG | ATCATACTTT | 720 |
| | AGCTGTAAGA | AAAGGTATAA | CTTAAGGTT | | | | |

1633UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCTTAATT | TAAAAATTTA | ATTAACCTATT | TATAATTTAG | AAATATATAA | TCTAGAGATA | 60 |
| | TATAATCTTA | AAATCATAGG | TAAAAATACA | TAAGATAGTA | AGAATAAAAT | TAGTAAAATA | 120 |
| | AATAGAAAAC | CATAAGTTAA | TTGATTCATA | AAGAAAAATG | GAATTATTTG | TGGCATCTTA | 180 |
| | ATTTTATTTA | TTTAATTGAT | TATTATCTAT | TTAACATAAA | ACATTTTAAA | ATGTTATAAA | 240 |
| | ATAAATAAGA | AATTACTTAT | AGAATATTTA | TTAAATAGTA | TTTAATTTAA | TTTTAATATT | 300 |
| | AAATATACCA | TTTTTATTAA | TAAATAGATT | ATTAAGTTTA | TTAATATTAA | GTGATATATA | 360 |
| 50 | ATTTAATTTA | TATAAATTAT | TTAATTTACT | TCATTGATAT | ATATAATTAT | TAAATGTACC | 420 |
| | TTTCATAATA | TTTATTTTAA | TTAGTCTAGT | AATATTTCTA | TTTAAATAGT | TACCCTTTAA | 480 |
| | TTGGATATTA | CTACCTACTA | AATATTTACC | TAATAATATA | TTATTAAAGT | TACTTAAATC | 540 |
| | TAATAATTTA | TTATCTAAAG | TATATAAATT | AATTAATCTT | TTTTTATTAT | TATTTAAATT | 600 |
| | ATTATTAATT | AGTAAATTAT | ATTTATTTAT | TTTATTAACA | TAATTTTTTG | ATAATAATAT | 660 |
| | ATCATTATTA | AATGGTTAAT | TTATTAATAA | TTATCTTTAA | TGATTTTAA | GATAAACCAT | 720 |

1634RP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCCATCTG | CGGTTTGTGC | GACGTCCTGT | GAAACTCTAC | CAGGCGAATA | GAACCTCTGAT | 60 |
| 5 | AGACGACTGG | CAGGTGTCTG | TTGAGTGGCA | ATAACGGGAT | TTGCATCATC | TATATGGGCA | 120 |
| | TTCCCTGGTAG | TATCTATCCT | TAGACTCGAT | AGGGACCCAT | GCTTTACAAG | TTTCAAGTTTC | 180 |
| | GCTTGCGGAG | CCACGACATC | CTTTCTCTGA | TTTAGGAATG | ACAAAATTGA | GGAGTTCTCT | 240 |
| | CTATGCTTGT | GTTCAAACCT | ACCAGCAATG | CTGGCTCGTT | TATTGGTACT | CGCAGATACA | 300 |
| | TTCCCTTGAAT | GTCCATAGAT | ACTCGAAGAC | GGCCTTCCAG | TGGGAGCTGG | AACGGCCAGA | 360 |
| | CTGTCTTGTG | CACCTAGCCC | TTTCGTAATCG | TTTGGAGAGG | AAAGCATGGA | AATTCGATTG | 420 |
| 10 | AACAACCTCA | CAACGAGCC | ACCCGATTTT | GTCTTCTTAT | GTCTCGCTCT | TATACTCTCT | 480 |
| | TCCGGAATGG | CCCTTTTCAA | AGTACGCTGC | ATCGGAGATA | TGCCAGGATT | ACTGTAAGGA | 540 |
| | TTTCCAAGGT | CTGGGCCATC | AGGCTGTTCC | TCCACAGCAG | GCTGCATAAA | TACTGTGGGA | 600 |
| | TAGATTGCTT | TCTCGAGGAA | GTGTAAGAAG | CTGGTGAGTT | TAGGGTTTGT | GGGCCGTGTT | 660 |
| | CGTAAATGGT | AATGTGCTGA | TTCTTGCGCTT | GATTCTGCAA | AA | | |

1634UP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|-------------|-----|
| | GATCACAGCG | TGGCCAAGCC | CAGCATTGTG | TCTAAGTTAC | ATGTAGAGGT | CGAACAGCAC | 60 |
| | GAGGGAATGC | TTTTTCGCTAC | GGCGGAATTC | GAGACCTTCA | GACTGACACC | GCAGATTTTC | 120 |
| 20 | TGTGCGGCTC | ACCGACCTT | AAATAGCTAC | AGCAACACAG | CTGCGCCGGT | GTACACTGAT | 180 |
| | AGCAAAGATG | AACCGGTCTA | TCCATTCTGT | GGTGACTGCG | ATGGCCTCGG | ACGACGCCAG | 240 |
| | CAGTCTTCCG | CATGAGCCGT | CGACGTACTC | GGCGGAGTCA | GAGGAAACGC | TCGTCAACTC | 300 |
| | GTATGGGCCC | TACAGCAACA | CGGGAATCGT | GATGACATCT | GTGATGATGA | ACAAGGCCCA | 360 |
| | GCGCAAGGGC | GAAGTGTCG | AGCAGTGGAT | GCGGCTCTTC | CTGGACAGCA | CGCCTGTCTGA | 420 |
| | GGACGTGGCG | GTGCTGCAGC | GCGGGATGTC | GCTGACGGGG | CGCTGCCTGG | ACACGTTGCA | 480 |
| | GCGCATCTCT | CAAAGCATGC | ACGGATACCG | CCAGATCGTC | CCGGGCCCTGG | CGATGTTCAA | 540 |
| 25 | AGAGGCATGG | AACCTGCAGT | GCTACCACGG | CAACGAGGCG | GACTTTCCGC | TGCTCGACGT | 600 |
| | GCCGATCAAG | GTCAAACAGC | TGACCACACT | GGCCAGCCTG | CTGGTCGAGC | ACCGCGTGTC | 660 |
| | CGGTTACAGC | ACGCCGATCG | AGCAACTCAC | CACGGTGCTT | CAGTACCTCA | ACAAGCTGCT | 720 |
| | GCAGGCGTCG | CGCGTC | | | | | |

1635RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCTAGGG | TGGTTCATGG | CACTGAGCGG | GACCGTGTTT | TTGGACCGGT | CGAACCGCAG | 60 |
| | CAAGAGTCTG | AAGTCGCTGA | ACGCGTCGCT | GGAGCGGCTG | AAGCGCAATC | GGCAGGCGGC | 120 |
| | GTGGATTTTC | CCAGAGGGCA | CGCGGTCTGT | CACAACGGAG | ATGCAGCTGC | TGCCATTCAA | 180 |
| 35 | GAAGGGGGCG | TTCCACCTGG | CGCAACAGGC | GCAGATTCCG | GTGATTCCGG | TTGTGATGTG | 240 |
| | CAACACGAGC | ACGGTGTTCA | ACCCGCGGCT | GGGCATCTTT | AACCGCGGCA | CGATCACGGC | 300 |
| | GAAAGTGCTG | GAGCCGATCG | ACACGGCTAA | CATGACCAAG | GATGACGTGG | ACAAGCTTGT | 360 |
| | GAGCGACGTG | CAGGCCAATA | TGCAGGCGGA | GTTTCGAGGCG | CTTGGCTACG | CGCCTGCCAT | 420 |
| | CGTGACACG | AGCCTACCCG | AGGAGGCGCT | GCGGCCGGAG | TTTGTGGACT | GCAAGGAAGA | 480 |
| | CATCACGGAG | GTAAACGCGC | TCTTGAAGTA | ACCTTGCTTG | GTATCATATA | AACGTTGCGA | 540 |
| 40 | CGAGTTATGT | ACATATAGCG | CTGCTAAGTA | GGCATTCACT | CCCACGAAT | CATACCTGCG | 600 |
| | TGAGCTCTAC | GCCCCGCCGA | TGTGGGCCAG | ATACTTGTCG | ACCTCGCCAG | CGGACCCGAG | 660 |
| | CCAGATCGAG | GACTTGTCGT | GGATGTGCTC | GGGAGTAAGG | TCCAGAAATG | CGCTCGCCGC | 720 |
| | GGTCGTTTAC | GGCCTTG | | | | | |

1635UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGGACTG | ACGGTGAATA | GGCCACCGTA | GCATGCGCCG | CTGAGCGCGC | TGGCGAGCGA | 60 |
| | TAGCAGCGGT | CCGTCCGAGG | CTCTGGTGGC | CAGGACAACG | ATCCACTGGC | CCACCACGCC | 120 |
| | CAGTAGGAGG | ACTGCCCACT | GGACTGACAT | CGTCGACACA | CCGTTGTGGA | TGCAGAGGTC | 180 |
| | AATTATCAAG | CCCGACAGGA | AGCGCGAGCA | CGTCGAGGCA | ATCGCAAATT | CTGGCAGCAC | 240 |
| 50 | CGACGCTTGG | CCCAACAGGC | TGCAGACCGA | GCCCATGTTG | GTGAGGAACA | TCTCCATCGG | 300 |
| | GCCCAGCGAC | AATAGCAACA | CAAGGCCATC | GAAGTACGCC | GCTGGGTCGT | GGAGGAAGTT | 360 |
| | GCGCAGCCGG | CGGCGGATGT | CCTGCGGCAG | CAGCGGCTCG | TGGGGGCTCT | GCAATGCCGC | 420 |
| | GAAGGTCACT | GTTGCGGCCT | TGACCTTGAG | CATAGTGACG | ATGCTCGTCT | CAACCCACAT | 480 |
| | GCAGAAGCTG | ATCAGCGTAT | ATGCGACAGC | AAGAGTCTCT | AATACACGAG | AAAGGTCAAG | 540 |
| | GTACGGCAGG | CCATTTGCAA | ACCATGGTAT | CTTCAGCAGC | TGCGACCCTA | GCACAGACGC | 600 |
| 55 | CTTCGCGGTA | CTTCGCGGTA | CTTCGCGGTA | CTTCGCGGTA | CTTCGCGGTA | CTTCGCGGTA | 660 |

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TGATGCGGTG AACAGCGCAC TGAAGT

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1636RP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTTCTTC | TGCTCGATGG | ACGAGCCAGT | TGTATCTTGG | ACTCTACGGA | TAACCCACAC | 60 |
| | CTTTTCCTTC | AGCGACAGGA | ACTTGGCAATC | GGTTGGGTTA | TTCGGGTATA | GATATAGCGC | 120 |
| 5 | TACGANCGCT | ACCACAAACG | TTAGGCTGCC | GATTATAATT | GACAGAATTT | TCCAATGTGA | 180 |
| | GATAGCTGGG | TTCTTTATCA | GCAGGATCAA | GTAGGAAAGG | ACGCCCATTTG | GTATGGATAC | 240 |
| | ACTGACCGTC | GCGATAACAA | AAATCGGGGC | GGTCGCTGCC | TTTTTATTCT | CTGTTAAGAA | 300 |
| | CATCAGCAAT | GTGTTGTTCA | ATGCAGGAAT | GATAATAGCC | TCCGTGAAAC | CTAAGCAGAG | 360 |
| | ACGAAGAACA | TATACACCTT | TGTAATCCGT | CATTGCACAT | TGTACCATCA | TAATGATGCA | 420 |
| | CCATATCGTC | AGGAGGACGA | TAACAACGTT | CTTCAAAGGA | AACTTCTGGA | TAAACAGCAA | 480 |
| 10 | GTTGATCTGT | CCGTAATAT | AGCCAACGTA | GAATAAGGTA | TTCACATTGT | TGTAACGATT | 540 |
| | CAAGGACATG | TTTACATCTT | CAAAAAATCC | TAACAGAGTG | CTGTAGGACA | ATTGCGCCTT | 600 |
| | GTCTATGTAG | GTGATGAAAT | TAATGCTCGC | CGTCAGTCCC | ACGATGTACC | ACATAACCTT | 660 |
| | TCGTGCAAGC | TTCTTTTCTT | CGGCTTCTGT | GATAGGAGGG | ACATCCTTGT | CTTGCTTCAA | 720 |

15

1636UP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCGCAAG | ATGACCGAGG | GTAAGGGCCA | CCTGCTTTTCG | CACCACCGCT | TAGTTTCCTT | 60 |
| | TGGAGGTGCA | GGTGGTCAAC | ATGCAGTTGC | AGTGGCACAC | TCATTGGGCA | TAGAAACCGT | 120 |
| 20 | CCTCATGCAC | AGGTACTCAG | CAATTTTATC | TGCGTATGGA | ATGCTTTTGG | CGGATGCGGT | 180 |
| | AAAAGAGGAG | CAAGTCCCAT | GCTCCATTTT | CTTGCAAGAT | ACATCTTCTA | AAGACCAGCT | 240 |
| | AAATGAAATA | TTCCACCAAT | TGATTACCAG | TACCTCAATT | AGCCTTCTTA | AGCAGGGATT | 300 |
| | GGCCGACGAT | CGGCTTGAAT | TGAGAGATA | CCTGAACTTA | CGTTATGAGG | GTACTGAAAC | 360 |
| | AAGTCTTATG | GTTCTACAAG | AAGGAGACTC | GTGGGATTTT | GTAGAAAGGT | TCACAAAAC | 420 |
| | CCACAAGCGT | GAGTTTGGCT | TTGTTTTCGC | CGAGAAGAGG | ATTTTAGTGG | ATGATGTCCG | 480 |
| 25 | TGTGCGTGCT | CTAAGTAAGT | CTATGGTGCG | GAACAGGAGC | CTGTTGATCA | GCAGTTATCC | 540 |
| | CAGGTCACTC | GTTCTACAGC | TGACCCTTCT | AAGGATGCAA | AGTTCTTTAA | GGACGTGTAT | 600 |
| | TTCGTCGATG | GGTTTATTAA | GACCACCTAT | TTACAGGTTA | GATAGTTTAC | CGGTAGGTAC | 660 |
| | CTGTATTGAA | GGACCTG | | | | | |

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1637RP

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|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCTGCTCA | TACTGAGCGG | CCAACCTGGTC | GTACTCCGTA | TGCAAAACAT | CTGTGGTTTC | 60 |
| | CTGGAAGTGC | GCCACCTTGA | GCGATATCTC | ATTAAACTTG | GTAACCAGCT | CTCCCAACTG | 120 |
| | ATGATTGACT | GCACCTGGTTT | CCGTCAGCAG | GTCTTCCAGT | TCGCCAGTTC | TGGTGTCCAC | 180 |
| 35 | TCCGCCACG | TATCCGCTGT | ACAATGTATA | CTCGTCGTTT | GCAGACCCCA | GAGCAGAAGC | 240 |
| | TGCGCGCCAC | TCTGGCGCCA | GCAGCTCAAT | TACCTGAGGT | TCAATCTCTG | TTTCAACCGT | 300 |
| | TGCCAACAGA | GTGTCTACTT | TTTGGCGTAA | CGAACTATCC | CCAAAAAGCG | GAGGCAGCTC | 360 |
| | ATCGTGAGAG | GAGGCACCGG | GATTTGCCGC | TACATCCTGT | ATGACTGAGT | TCTTCCGGCT | 420 |
| | CCTAGGCATG | GTGCAGTTGC | TGCCCTCAACG | GCTTCTTCTC | TGGTGCAGGT | CTGCAGTGGT | 480 |
| | TGCTGCTTAT | GCGCAAGCAG | AATACCATGT | TGAGCCGGCG | AAATCTCATC | ACGTGATCAT | 540 |
| 40 | CATCTTGCAA | CGGCTCGGAG | GACGCTGATG | CACGTGTTCC | TAGGCTTAGG | GCGCAATTAT | 600 |
| | ACGCTAGCTA | GTTATATTGA | TAATATGTAC | ATGATGCCTT | CGGCACGACA | GCGCACTCAG | 660 |
| | TGCTCGGCCG | CCGCGCCGCG | CTCCGGCAAG | CTCTTGCTCT | AACTTGGGCC | TTCTCGGCCT | 720 |
| | CCACGT | | | | | | |

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1637UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGCCG | TCCTTCTTGT | CCAGCTGTAG | GTCCGGATGA | GGGTACGCCT | CGCTCAGGTA | 60 |
| | CTCCAGCCGC | AGCTCGCCGC | TCTCCATGGA | CGCTCCAGG | ATCGAAGGCG | CCGGCACAGC | 120 |
| | CTCGGAGGGG | AGGGCGGGCT | GCAGGAGGGG | CATCTCCTGT | CGCTCCTGGT | GCATCTGCAG | 180 |
| 50 | CGCCGCAGCG | CTCGGCTCCA | GCGCCGGGTC | GAAGTACTTC | ACATTGCTCA | GGCCCGACTT | 240 |
| | GTACAGATTC | AGGATGCAGC | CCTTGAGCTG | CGCACGGTGC | AACCGGTACG | CAGTCGCGAC | 300 |
| | ATACTGGTAC | CCGCTCGTCC | CCCTTCCCGT | GAAGTGCGGC | CGCTCCGATC | CGATCGAAGA | 360 |
| | CAGTGACGCT | GTTGGCTGGT | GGCTGTATCG | CCCCTCGCGC | GCCGGCGCTG | CGCCCTGCGC | 420 |
| | CTTGTTCAAC | CACCCGAGCC | GAACACAGT | CCGCTCGTAC | GTCTCCCGGT | TCAGCCCGCC | 480 |
| | TCCACGTCGC | ACCGGCGAGC | CCGCCGGCTG | CGAGCAGGGC | GACACCTGCT | CCTCGCAGCG | 540 |
| 55 | CGCACCCGCC | TTTATGTCTT | CACATGTACG | CGTCCGCTTG | TGCGCTTGCC | CCGTCCGCAC | 600 |
| | CTGCTGCTGC | CTGCTGCTGC | CTGCTGCTGC | CTGCTGCTGC | CTGCTGCTGC | CTGCTGCTGC | 660 |

GCCTGTTGGC CTTGTTGTGT GTA

1638RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 5 | GATCCTGTGG | CTGGAAATGT | CGCGGACGAG | AACAGACAAC | CGTCGGGGGC | GGCGGATCT | 60 |
| | GCCCGAAGCT | GTCCGAAGGA | GACCAAGAAG | GAAATTGTAA | AGCTGCAGCC | AGCGCCGATT | 120 |
| | CCACAGAACT | CTCCGTGGAA | ACCGGTGCAG | ATGGGGACGG | GGGCCGGACG | GGCCACCGAG | 180 |
| | GACGGCCGCT | GGCCTTCTGC | GCACGAGGTT | GCGACAAAGC | TTGCTGACGA | CGGCAGCGGG | 240 |
| | CGGGGGCGCT | CGCAACCGAT | GGTGACGACC | GGGAAGGAGA | AGTGGGTGCC | AATGAAGCCG | 300 |
| 10 | GCCATGCTTG | TGCCCCGGCA | GGGCTTGC | AAGATGCAAC | GCAAGAAGAA | AAACGGGCAG | 360 |
| | GCGGTCAACG | GCGGTGCCCG | GAAGCGCAAG | ACCGGAAACA | AGGCACCCCG | CAGCCAGCAA | 420 |
| | AAGAGAGCTC | CAGACTCCCA | CAGGAAGGCG | CATGACGAGG | CGAGCGCCCG | GAGCGCCACG | 480 |
| | CCATCTGCAC | CGGAGGAGCA | CGTGGAACAG | CGCGAGCTCG | GCGAGCAGCA | GCAGGTCCCC | 540 |
| | GAGGCCGAG | AACAGGGTGC | GGAACACCCG | ACACAGCATA | TGGCCGAGAT | GCAGCCCCAG | 600 |
| 15 | CCCAGAAGAC | GCTTCTACGG | CGGCAGGCAG | CAGCACTCCG | CTGACCGACA | CAAGCCAGTT | 660 |
| | TGTGT | | | | | | |

1638UP

| | | | | | | | |
|----|------------|-------------|-------------|-------------|------------|------------|-----|
| 20 | GATCTGAGAA | CTACTGTGTG | TGGCTAGCG | CAAACCTTATC | AGAATTCCAT | CAACTCACCG | 60 |
| | AACCATAGCA | CATCTACGTC | ACCTCCCCCT | ACCGCTACAG | ATACCGGGAA | TGATCAATTT | 120 |
| | TTGCGTGTTC | ATGCTGTAAAC | CATATCGCAT | GATGACAACT | ACCTAATATG | CATGAGCAAT | 180 |
| | GACACGTACA | TTGATGTCTA | CGACATGTCA | GAATTTATCGC | CTGATTGTGA | ACGCTCGCAC | 240 |
| | GAAATFAGGA | CTCCTAGACT | ATCTAGACTT | AATATTGGGA | AGCAGATGAT | GTCCATGAGC | 300 |
| | GGGCCAGTTG | GACCCGATGA | TTCCGCTTTTA | CTAATCAGTG | TACAGCCACA | CGAGCTTCAG | 360 |
| 25 | CTATGGGATT | TCAAAAAGGCA | GATTTATGGTC | CAAAGATATG | TAGGACAGCG | GCAGGTGGCA | 420 |
| | TACATCATCC | GTTCGTGCTT | TGGGTATGGG | GACAACCTAG | TTGCTGGAGG | TTCCGAAGAC | 480 |
| | GGGAAGATAT | ACATTTGGGA | TAGATATTAT | GGTAATATTA | TTGGCGTTCT | ATCTGGGCAT | 540 |
| | AACATGGAGA | GACCCGACGA | CTCCAGAAAT | AAAAACTTCC | CAATGACCAA | AGTTTGCAAT | 600 |
| | ACTGTAGCAT | GGAAATCCCGT | CAATTCAAGA | CTATTTGCCT | CTGGAGGAGA | TGACGGTCTG | 660 |
| | GTGAAGATAT | GGAAGGTTGA | CCCTAATTGA | TGAATCCTAT | AGCATGACGT | TATTTGTCTA | 720 |
| 30 | TAGAACTTCG | AGAAATCCCTG | CCGATCTGTT | GTTTCCTAAA | TTGTA | | |

1639RP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|------------|-------------|-----|
| 35 | GATCCATCTG | ACTATTGTTT | CACGCGATTTC | GGGGACCAAC | TGTGCAGTCA | GGCCCAGGAA | 60 |
| | CCGGGAGAAA | TAAGCCTTGA | ACGAGCGCTG | GTGATATTA | CAGTTGTGCG | CACCTTGACA | 120 |
| | TCCTGCCCTCG | TACAGGGTGT | CGTTGCTGAG | GAAGATTCCTG | GCGCTGTCCA | AGAAACGCAG | 180 |
| | TGTTGCGCTGG | TGCCACAGCT | CGTCTGGGT | ATGGTTGTAG | ATGAAGGCAC | AGCCTGCCAT | 240 |
| | GATCAGCCCA | TGGTTGTAAG | TCCACTGCGAG | CTTATTTAAG | TTGGTACAGT | TGTCGTTGAT | 300 |
| | GTCTGTACCG | TCGTAGACGA | CGTGCCAGTT | TGGCTGCACA | ATCGAGATCA | GCCCAACGCC | 360 |
| 40 | ATACATCCAG | TCGTAAACCC | GTTCCGCCCA | CTCTAAGTAT | GTGGCATTC | CGGTGTAAACG | 420 |
| | CGTTAATCGT | GCCGCCATGT | GGAACAGCGC | ACCGTTGGAA | ACGGAGTTT | TGTAGTGGTA | 480 |
| | CCCGTCGTTT | CAGCGGAAAA | TCTGCCTCT | GAGCCCCGCG | TTGCACGTCT | CCATATCCCA | 540 |
| | GCGCAGGGCC | ATGGTATTAA | ACACCGCGTG | CGCCAGCGCC | AGCCATTGCG | GCTGGTCCGC | 600 |
| | GGGCGGGTTC | GGGAAGTTGC | GCTCCGCGGC | AGCCATCACC | GCCATCCCC | AGAAAAAA | |

1639UP

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|----|-------------|-------------|------------|------------|------------|------------|-----|
| 45 | GATCGAGCGG | GTGAGGGACA | CGGTGCACAT | AACGACTGCG | GACGGTGCCT | GCTATGTTTC | 60 |
| | CAAGTGCGCG | ATTGTGACCG | TGCCGCAAAG | CGTGCTGGAG | CTGTCTCTGA | AACCAGAGCG | 120 |
| | GGTGCCCGGG | CGCATTTAGT | TTCCGCCCCC | CCTCAACGAC | AACATCACGT | CTGCGTTTGA | 180 |
| 50 | GCGAGCTCAC | TACGCCCTCG | TGGGCAAGAT | CTTCTTTGAG | TTTGACAACT | GCACCTGGGA | 240 |
| | CACGCAGCGC | CCGCGGGTTG | CTATCGCAGC | CAAAGTTCCC | GACGACTTTA | GTGCGCAGGT | 300 |
| | CCGTAAAGGCC | CAAGATTTTC | AGGAGCTGCT | GCGATCCGCC | AGTGCTCAGA | CTGAGGTGAA | 360 |
| | GCTGGGACAA | GACTGCTTTG | ACTTTCCACA | AGAGTTTCAG | AACATGGTTG | CGCTGCAAG | 420 |
| | GATACCGACA | CTTATTGCGT | TCACGCAGAC | ACCTCTTACT | GAGCACGTCT | AGCGCTTATC | 480 |
| | AAAGCAAGAG | ATTGTGAGCT | ACTTCAAACC | CGCAATTGTT | GTTGCACTAC | GTGCACTGGG | 540 |
| 55 | TTCCAAAGGAG | GAGTGCCCTCT | TCGAGCTCGG | AAACACGCAA | CCGCAAGACG | ATAGTCAATC | 600 |
| | AGGCCCAATC | CTAAAGAACG | TGATCTTCAA | TCCGTGGTCA | CAGGATACGT | ATTCTCGTGG | 660 |
| | CTCATACACC | GGTAGTCACG | TGGACGACGA | CCAGCTGCCC | TTGAACGTGG | CCCTCAACAA | 720 |

1640RP

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|----|-------------|------------|------------|------------|-------------|------------|-----|
| | GATCAAGCCG | AGCACGCTGA | CCTTGGCTCC | CCGACGCAAC | ATCGGGTTGA | CGGGCTCCCC | 60 |
| | CGCCGTGCGC | TCCTCGACGC | CATCGCCCAG | CTTGGCACTG | GCGGCGTCCG | GCGCCGCGGC | 120 |
| 5 | GAGGCGCGCC | ATGTCCATGA | AGACCGGGAT | GTACGAGCCC | TCCGTGATGG | TGTATATAGT | 180 |
| | GTTACAGCAG | AGCATCAAGC | AGTACAGCAC | CGACATCAAA | ATGAGCGCGC | CGTAGGTCTT | 240 |
| | GCTACCCCTGG | CTGACAAACG | GCGTGGCAAG | TGCGCCGTAC | ATTACAATCG | ACAGCGTCAT | 300 |
| | GAGCCACTTG | CGGTAGTTTG | AAAAGTCCGC | CAAACCCATG | AGCACAAATCG | CAATGAGGCC | 360 |
| | CTCGATGGAC | GTGTACAACG | CCCGCATATA | AAGCACATAT | GCCGTGAAC | GCACGTCCCT | 420 |
| | TCCGCCACG | TAGATGTAGC | AGTCATCGCC | GCGCGGGCGG | CAGTGCCTCG | CGGGGTGCC | 480 |
| 10 | CTTGGGGTGC | CCGAGCTCGT | GTGCGATGGT | CTGTAACGAC | GCAGGCACAA | AAGAACGCAT | 540 |
| | CATCACGTAG | GTCCGCCCGG | TCGAAAAGCA | CACAAGGAGC | CATGCAGGAA | ATACCCACCG | 600 |
| | GCCCCGCCAC | CGCGCCAGCA | CTCCTCGTCG | GCGCGCTGCC | CGCCCACTAG | CGGCTGCTGC | 660 |
| | TCGTCCAGCG | TCACTGACAC | CTGCATGTCA | GCGCCCTTGC | TT | | |

1640UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAACGAG | CTGGCGCAGC | TGCAGCTGGA | CGATGCGGAG | GAAGGCCTGG | AAGAGGCCGG | 60 |
| | TGGTGCGCAG | GAGGGCGCGG | CGCTGTGGGC | GCAATTGGAC | GGTGACGACG | ACCTGAAGCA | 120 |
| | GTACGACTTG | GAGCACTACG | ACGAGGAGGA | TGCGGGCGCG | GGTGCAGAGG | TGACGATGTT | 180 |
| 20 | CCCGGGGCTC | TCGGGCGAGG | CGCGCTTCCA | CGAGGGTGAG | GAGGGGCAGG | ACGCGTACCT | 240 |
| | GAGCTTGCCA | ACCGTAGAGG | AGGAGCAGGA | GCAGCGGGCG | GAGCTGCAGG | TGTACCCGAC | 300 |
| | AGACAACCTG | GTGCTGGCAA | CGCGGACGGA | AGACGACATT | TCGTACCTGG | ACGTGTACGT | 360 |
| | GTACGACGAC | GGCGCGGGGT | TCCACGACGA | GGCGGTGCCG | CAGGAGGCCG | GGGACGCGCA | 420 |
| | GGACCCCGAC | GTGGCGCGCG | GGCTGATACG | GGACGCGTCG | TTGTACGTGC | ACCACGACCT | 480 |
| | GATGTTGCCG | GCATTCCCGC | TGTGCGTGGA | GTGGGTGAAC | TACCGGCCCG | GGTGGAACTC | 540 |
| 25 | TGACGCGCCG | GCAAACCTTG | CGGCGGTCCG | CACCTTCGAC | CCCACGATCG | AGCTGTGGAA | 600 |
| | CCTGGACTGT | GTGGACCGCG | CGTCCCCGAC | ATGATCCTCG | GCGAGCCCCG | GGACTCTGCG | 660 |
| | ACCGCGTCCA | AGAAGTCGAA | GAAGAAGAAG | AAGGGC | | | |

1642RP

| | | | | | | | |
|----|-------------|------------|------------|------------|-------------|-------------|-----|
| | GATCGCGGTT | TCGGAACGGC | TTGCTTCGCA | CAAAACACAG | GGTTCGAAGT | TACATACTCT | 60 |
| | TCAAGAAATT | GACGAGGCCT | TGAAAGCGCT | GGAGCTACGC | GGGTCAGGGA | NTGATGGTAA | 120 |
| 5 | TGCTCATAT | AAGTGCAACT | GCCAGGCCAC | TATGCATCCT | CTTTTGTAGC | TAGCCCCAAA | 180 |
| | TTGCTTGAAC | TGTGGCAAAA | TTATATGTTG | CCGAGAAGGT | CTTCATATGG | ATTCTCTGCAG | 240 |
| | TTATTGTGGG | ACGCTGCTGA | TACCGAAGCA | GCAGCAGCGG | GATATAGAGA | AGGTGTTGCA | 300 |
| | GCGCGAACGC | GAATTGGTAA | AAGCCAGAG | ACAAGAGACC | GGCTCGACTG | GCAAGAAGAA | 360 |
| | GGAAAAGGTC | TTTAAGATTT | CGAACGCAA | GGGGAGAAAT | ATGTTTCAGTG | AGCAAGAGAG | 420 |
| | GCTATTTCGAC | AAACTTGACA | GGCAGCGGGA | CGTGAATGA | AACGCAACCA | GGTACTTGGG | 480 |
| 10 | GCAGAGGACT | GTCTCAGGAG | GAGGACTCGA | TTCTGAAGGC | TGAGGAAGTC | GATCCGGAAC | 540 |
| | TAAGGGCGGC | CAGGCGCGCT | TGGAGAACT | ATTGCACTTT | CAAGACACTA | GCGAAGAGAG | 600 |
| | GACTAAAATA | ATAGATACTG | CCAGTGACTA | CAGTATGTCA | AACGACGCAG | GAATTTGGGG | 660 |
| | GTCCGCATAT | GAGAAGGC | | | | | |

1642UP

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|----|------------|------------|-------------|------------|-------------|------------|-----|
| | GATCTCGTAC | CCGGTACGGT | GCGCGAGCTT | GCCGCCGGCA | GCCGCGCGCT | GCCCTGCTTC | 60 |
| | TCCGCCGACA | GCCCGCCAAA | TACCGTGTTC | TACAAGCTGC | ATGGATCGCT | GCCACAGGCC | 120 |
| | GTGCGTGTTC | CGACGCTGCG | GCACCTCTCC | TCAGACGCTG | CGGCAACCCG | GGGGAAGCAC | 180 |
| 20 | CTGGTCTGT | TTTGTACCGA | CGTCGCCTCG | CGTGGCTTGG | ACCTGCCGCG | TGTCAGCACT | 240 |
| | GTCATCGAGA | TGGACCCGCC | CTTCGCGGTC | GAGGACCATC | TGCATCGTAT | CGGGCGGACC | 300 |
| | GCGCGTGCCG | GTGTGGCTGG | CGAGTCGTTG | CTCTTCCTGC | TGCCCGGCGA | GGAAGAGGGC | 360 |
| | TACATGGAAC | ACATCCGTGC | CCACCACCCCT | CGTGGCTGGG | AGCTGCTTTC | CTACGATCGA | 420 |
| | GACCTACTGG | CGCCGGCCCT | CGCGGCCCTT | GTCCGCCGCT | CCGACCGTCC | GACCACCGCA | 480 |
| | ACGGACGCCG | CCTGGGACAG | CAACCGGACA | ACTTGGCACC | TCAACGTCCA | GCGCCGTGTT | 540 |
| 25 | GCTCGAAGAC | CCTCCGCGAA | GGATCTTGCC | ATCAAGGGCT | ACACCAGCCA | TATCCGCGCA | 600 |
| | TACGCAACCC | ACATCTCTCA | GGAAAAAGCG | CTTCTTCAAC | GTTTCGCTGTC | TGCATCTTGG | 660 |
| | CCACCTGGCG | AAAGCCTTTG | GACTTCGCGA | GCGCCCCAAA | GCA | | |

1643RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCGGAACA | AGGAGCAGCA | GTCCATCCAG | CTGTGCGAGC | AGCAGCAGGG | CACACTGCAG | 60 |
| | GACAGGAAGC | CGACATACCA | AGTCATGTCT | CTCCAGAGCG | ACACGACGGT | GACCAAGTTC | 120 |
| | AAGGTCGACG | ACTCCATCAG | CAAGCGTTTC | GAGTTCAAGA | ACAAGCCGAA | GGCCAAGCGC | 180 |
| | GCGACCGCGC | CGCGGCAGGC | GGCGACCAGC | AGCCCTGCAA | TGGCCTCGGG | CGCCGGCAAG | 240 |
| 35 | CGCGTGACACA | AGCCCAAGGT | GCAGCAGGGC | CGCGGCGGCG | CCGCGCAGGC | CGATTGCGCG | 300 |
| | AAGCAGAGTA | ATACGCCAG | GGGACTTCGG | TGCGCTCGGA | GAAGACCAAT | CGCTGCAGGA | 360 |
| | ATTCTGTTCG | CAGTCCGAGA | TTAAGAGCGA | TCGTGTTGAA | CTGGAGGAGC | AGAACGACGA | 420 |
| | GAGCGCAAGC | TCCAACAAGG | AGAACGTACC | CCCGAGCTCC | TCGTGCGTGT | TCCAGCAGCA | 480 |
| | GCTTCTGCCC | ACAGATATGG | ACGACTTTT | CAACCTCGAC | CTCGACCATA | TGAAGAACAC | 540 |
| | CGATGATGAG | TGGTTCCAGG | GCCTGTTCGG | CACCTCTCGG | GACGCGACCA | CCTGCAACAC | 600 |
| 40 | CATGCCCCATC | GAGGAC | | | | | |

1643UP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCGTTGCA | AAGAAGCTAT | TACGGTGTCT | ACACGTTTCA | GAACAGCGCC | CGATGCCATA | 60 |
| 45 | TCCCACACCG | CCGTGTCAA | ACGCGTCTCT | GGGCACGAGC | GCTGACGGCG | GGAGCGCCGC | 120 |
| | AGGCTGGCG | CAGCAGGCGC | CCGCAAAATC | GTACTACCCG | CTGGTGCCGG | ACGGCGCACA | 180 |
| | GCTACGCGCG | CCACTGTCTG | CCGTGTCCAC | GGCCGGCGAT | GACGCCGGCC | TCTACCGCTA | 240 |
| | CCACAAGCAG | ATCAGCAAGT | CGTTCCAGGA | CGACCTGATC | TACTGCCCGC | GCGCGCTGCT | 300 |
| | GAGCAAAGTC | GAGCTGACGC | AGTGCTACCA | GCTGGACATG | CTGCTGCTGA | TGGAGCAGCA | 360 |
| | GCAGCAGGCC | CAGCCGAGTG | TCAAGTTCAA | CCCATATACG | TCGCAGAGCT | TCAACCCCGC | 420 |
| 50 | GGGCCCCGCA | TGCCCCGGCT | CCTAGGGCGG | CGGGGCCGCC | CGGGACCATT | TAGTTTCGACN | 480 |
| | GAATCNCAT | GTCAAGACTG | ACGCTTGCTC | GCATCCGGGT | TTATGTTTTTA | TTCCAGTT | |

1644RP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCCTTTGC | AAATTCGTCC | ATAOGAATGT | AAACGGACCT | GCCCTCCAC | CTCTTGGTAT | 60 |
| | TGCAAAACAGG | CATCTTGAGT | TCGTTTGGCC | ATTCCATCTT | TATATGCTGT | TCTTCATCGC | 120 |
| 5 | AAGGCACATT | TTCTGTCTTCT | TCGGGCTTCT | CAAAAACAAC | CTTATGCACT | CTCTCAGTAA | 180 |
| | TATACACAGG | GTACGGGGTC | GCCGTCCCTG | AACATTAGGA | AGAACCAGCC | AAATGGGCTT | 240 |
| | GTGCTTGGCG | ACTGGCCGGA | CTTCGCAK | AAATCCCACC | TCAAGTATAT | GACCATCAAG | 300 |
| | TCCCTGAACC | GCGTGCTAAA | CTGCTGGTAT | GTTGTGTGCA | TATCTAGCGG | ACCGGGAGCT | 360 |
| | AGCGAATCGG | TATGCGGCAC | TTCCAATAGG | TAATCGCCCC | GCGTTTGGAA | CGGATGGTAT | 420 |
| | ACCCTAGTAA | CTTTGCCTGC | AAACTCAATA | TGGGGCTTGG | GCTTTTTCCT | GTGGGCTTGG | 480 |
| 10 | TTTGTAATTG | GTATCAATGT | CTGCGGAGAT | GAGATGGAGC | TGTCGCTCGA | AGATATGTCC | 540 |
| | TTTAGCAGGT | TATCGTCTTC | | | | | |

1645RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGGAA | GAGGAGGACT | ATTCAAGTAA | AATGGCACGG | CGGGAAGATA | AGATGGAAGA | 60 |
| | GGAGTGGATA | CGAAAGTACG | AGCGTGAGAA | GAAGAAGAGA | AAGAGAGGCG | CATAATCCCC | 120 |
| | AGTGTAATAA | ATCAATTCCG | CCGGTTCGCT | GCGCTGTAGC | ATAATAATAT | GTACGATAGT | 180 |
| | GGTCAGATAA | GGTATTTCAA | AAGTTAGGCA | ACCCATGAAA | CATCAAACCT | TTCAATGCAA | 240 |
| | TGATATGTAA | GTTGCATATA | TTACGAGCTG | TGAAATAGAG | AAACTCAAAT | GAATACTTTT | 300 |
| 20 | ACCACACCAT | AACAAACGCA | CAATGTTACG | AGAATGAAGA | CGATAATGCA | GCTTGAATAG | 360 |
| | TGCCACCATG | GCGCCATATG | GTACCTACTG | AACAGCAGAA | GCAAGCTAAA | CGAGCTCAGC | 420 |
| | ATGAGGGACA | CCACTAGAGA | TACCAGGATC | AACGCTGTGA | TATAATTACT | ACCTTCAAAC | 480 |
| | TCAGTCTGGT | CATTTCCAAG | AGCGCTGAAC | AATGAAAACA | TGATTCCAC | AGTGGTACCT | 540 |
| | GTGGTTATGC | AAGATACGAG | CAGGTCGTC | AGGTAAAACA | ATGAGACCAC | CTCATCGTGC | 600 |
| | TTGTATCCAT | ATAGGACATC | AAGTTCATCG | TAACATACTA | GCGCAGCCTC | GTCATCCAG | 660 |
| 25 | TTTGAACCTT | GCAGTTGGCT | ACCACTCCCC | GCAACGTGCT | TTGCAC | | |

1645UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCGGC | GGCTGCGCGC | GCTGTTGCCG | TAGCGCTGCA | GCAAGCTCGC | GCGCGCCGCC | 60 |
| | GCGCTCTGCG | CCTGGCCCTC | CGGCTGCCGC | GCACCGCGCT | CGGGCGTCTG | CCGCCCAAGC | 120 |
| | TCCAGCCGCG | TCGGGTTCGC | ACTGATCAGC | TGATCCACCG | TGCTGCCGTC | CCGGCCGGCC | 180 |
| | CTGTCCGGCG | CCGCCGGCGC | CTCGCCCGCC | GCGCCATCGC | CGCGGTACAC | ACGGCTCTTC | 240 |
| | GGATCGTACC | GCGTCTCCTC | GCCGCGCAGC | TCGTGAGGT | ACCGCGCGCG | GTGATGCCGC | 300 |
| | GGCCGGATCG | CAGGCGCCCC | CACGCCCGCC | CGCGCCGCCC | GCGCGTCCAG | TCCCAACTTG | 360 |
| | TACCGTTCCA | CTGCTGCCGC | CGCGTCCCTC | GCCGCTGCCG | GCGGCTCCGC | CGCCGCGGCC | 420 |
| 35 | GCCACTGCCG | GCGCCACCGG | CCCTCGAACC | CCGTACCATC | GGTCCCGCTT | GGCCTCAAAG | 480 |
| | CTCAGCGCAT | TCTCGTCCCG | GACCTGAAAC | GCGCGCTCGC | CACCATCGCC | CCGCGCCTGT | 540 |
| | TTGCGCGGCC | GGAGCAGGCA | GTCGCGCCGG | TCATGATTGG | CGCCGCAGTT | TCGTGCACCG | 600 |
| | CCGCGGTCCG | CGCCCCCGCC | CGCGCGCGCG | TGCCCGCCAC | AAAACGGTCA | CTTATTACCG | 660 |
| | AACCTGCTGA | GCCACCGAGA | AGTCTTGAGC | GCCCTCGCCG | GGCTC | | |
| 40 | | | | | | | |

1646RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGAGAAC | CGCATGGACG | ACAAGCCCAA | CGTGGTGATC | CTGGGGTCCG | GCTGGGGTGC | 60 |
| | GATTTGCTTC | CTGAAGCACA | TCGACGCGCG | GAAGTACAAC | GTGACGGTGG | TGTCGCCACG | 120 |
| 45 | GAACACTTTC | CTGTTACACG | CGCTGCTGCC | CTCGACGCCC | GTGGGCACGG | TGGACGAGAA | 180 |
| | GTGATCATC | GAGCCGGTGG | TGAACTTTGC | GCTCAAGAAG | AAGGGTAACG | TGTCTTACTA | 240 |
| | CGAGGCGGAG | GCGACGTGCA | TCAACCCGCA | CGCAACACG | GTGACGATCA | AGTCGGTGTC | 300 |
| | GACGGTAGCA | CAGCTGTGCG | ACCCGACAAA | CCACCTGGGG | CTGACGCAGC | AGGACTCCGC | 360 |
| | GGAGCTGAAG | TACGACTACC | TGGTGTCTGC | GGTGGGCGCG | GAGCCCAACA | CGTTCCGGCAT | 420 |
| | TCCGGGCGTG | GAGGAGCAGC | GCAACTTTT | GAAGGAGATC | CCACACTCGT | TCGAGATCAG | 480 |
| 50 | AAAGCGCTTC | CTGTGGAACG | TCGAGAAGGC | GAACCTGTTG | CCCAAGGGCG | ACCCCGAGAG | 540 |
| | AAAGCGTCTG | CTGACCATCG | TGGTCGTGGG | CGGTGGTCTT | ACCGGTGTGG | AGACCGCGGG | 600 |
| | TGAGTCCAGG | ACTACGTGCA | CCAGGACCTG | AAGAGATTCA | TGCCCTCCAT | CGCTGAGGAG | 660 |
| | GTGCAGATCC | ACCTGGTGGA | GGCCTTGCCC | AACGTGCTGA | ACATGT | | |
| 55 | | | | | | | |

1646UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAAATGG | GTTAGCCCGT | CTCCAACGAG | CCCTGCAACA | TAGTGGCAGT | AGCGGTGCTA | 60 |
| | GTCCTGGATC | GTCTCCAACC | CGCTCAAATT | AAACTTCTCG | TCCAGAATGT | AGTCTGCCAT | 120 |
| 5 | GCCGTTGGCC | ATCTTGTGTG | TGATGTCTGC | AATCACCTGC | TGGTACTCGG | GCTTCAGCTT | 180 |
| | GTGGAACCTG | GCTAGAATCG | TGCTGAATC | CACCAGCAGC | TCACGGTCC | TCTCCGTCTT | 240 |
| | CGCGTTGCCG | TCGAAACTCC | ACGTATCCAG | CTTCAGTTTC | TGGTCGAACT | CCCGGAGTAG | 300 |
| | CGGCACCTTT | ACCTTGGGAC | TGATCGTCAT | ATCGTCTTCA | ACAGTATCCA | GCGCACGCAG | 360 |
| | AATCAGGTAG | AACAGCATCA | CCGCGTTGCG | CAGCTCGGGA | TGTAGCTCCA | TTATCACGGC | 420 |
| | CGCAAAAGAC | TCGAAGTCCG | CTGTAGCAGC | TGGTAGCACC | GCTTGAGCTC | TGCAGAGCCC | 480 |
| 10 | TGCGTGTCTG | CCGCAGGATA | AAGCGGTTCC | CTCAGAAATT | TGAGCTTCAG | AGCTGCCTTC | 540 |
| | AGCTCCAGTG | GGTGTGTGAA | TAATTGAACA | ACCTTCCCCA | TGGTCACGAT | TCGATTAAGT | 600 |
| | AATTGCCAAT | TATGTCAAGC | GCCTGTCACT | TGGTGATGTC | GCGCTTGCTT | GTACAGG | |

1647RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGCTA | GATAGCGTGC | CAATTGCTGA | TAAATCCTGC | CAGAATGCGA | TAACGCCTCT | 60 |
| | CTGAAACGCG | CAACGCCTCC | GGAGCGCCAG | GAGCTGTCCG | GAGATGCGAG | GCGTCTGGAC | 120 |
| | TGCATGCACA | ACTAATATTG | AATTCAGTAT | CCCGCAGTAG | GCGGGTACAT | AACTGCTTAC | 180 |
| | GTACTCCCAC | TACGACACTG | CGCCCCGCAC | GCTGCACGTG | CGATGCGGCT | TACAAAGACC | 240 |
| 20 | AAGTCCCTTG | CAACACCTGG | ATATGGTATC | CATCGGGGTC | TCTGAGGACG | GCGAGATTCT | 300 |
| | TGATAGACCC | CTTGTTGTAG | CGCAACTCCC | ACTCCAGGTC | CGGGTACGTC | TCCTCGATGT | 360 |
| | CAGCGCAAAG | AGGCGCAGGG | TCACTGAGCG | ACACACCCAT | GTGGCTGTAC | CCCGTGGGCT | 420 |
| | CTGCGTTCCC | TTGTGTGATC | GAGAAGTCCG | CGTCATCCTC | GGTCCCCCAA | TTGTGCGTCA | 480 |
| | GCTCCAGAAT | GCTCTCGCGC | TTCAACCGCT | CGTCCGCTGC | CGGATACCCC | AGGAAGTAGA | 540 |
| | GGGTGAATTT | CGCATTTGCG | TGCTCGCTCA | CCTCCAGTAG | CGACATACCT | AGCACATTCT | 600 |
| 25 | GGTAGAACTC | CAGCGACTTC | GTTGCGTCTT | TCACACGTAG | CATCGTGTGG | TTAAACTTGG | 660 |
| | GCCCCAGGTC | CACTGGCTCC | GCGTCCGACA | AGTTGTACTG | TATCAACTCA | ATCCAGTATC | 720 |
| | CGTCCGGG | | | | | | |

1647UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCGAGCA | CGGTGCGGGT | GCAACAGAGG | AAATATATGG | CACTACAGAC | AGTGACACAGA | 60 |
| | TGCAGGAGCT | GCGCCGCCTG | GCGCGGCAGC | GCTATCTGGA | CCGGCGGGAG | AGGGAAAAGC | 120 |
| | TAGACTGGGC | AATACGGGAC | CTTGCAATTG | TAGAAGAAGA | CGTAAAGAAG | TACGGATTGG | 180 |
| | ACAAGCTGAC | GGAACGGGAG | CGAAGAGAGA | TTGGGACCAA | GCGGCAGCTC | GTGCAAAATTG | 240 |
| 35 | TGCGCGAGCG | CGATGCGGCG | GCGGCGGGCG | CGGAGCGTCC | ATTCCATATG | CCCGGCGAGA | 300 |
| | CCGTTGTGGA | GCTTACTCGG | CGGCAGGAGA | AGAGCTGGGA | GGAGCAGCAG | GTGCAAAAGG | 360 |
| | CGGTGCGCGC | GGAGGGGCGC | TCCGACATAA | TTGAGGTGGA | GGGCTCTGAA | CAGTACGAGT | 420 |
| | TTGTTCTTGA | CTCGCGGTCC | GTTGTGCGCT | TTACAGAGGA | AGAGACGCTG | GCTCCCGGCG | 480 |
| | AGCGTGTCTG | GAAGCAGCTC | GAACAGAAGC | TCGAGAAGGA | AATTAAGCGC | GTGGCGTCTGA | 540 |
| | TTCAAGAAAC | TAGGAGGCAG | CTTCTGTGTG | ATGCGTACCG | CGACGAGCTT | CTGAAGGCGG | 600 |
| 40 | TGCGCGACCA | CCAGT | | | | | |

1648RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCCAGCTC | ATGCAGTGCG | CGATTCCAGC | CCTGCCCTGTC | GTTTAAAGTC | TTGAAGTAGT | 60 |
| 45 | TGGTGC TGAA | ATGCTTGTCA | AATTTGTACA | GGTATCGTTT | CGAAGATTTT | GAGAATAGTC | 120 |
| | CTTCCACCAC | TTTCAATGGG | TTCTCCTCGA | ACTTGTCTGAG | GAATGAATTC | TCCAGCTTGG | 180 |
| | AGAATGCATG | CTGTGAAGAG | TATATACGAG | ACCCAGCTTT | CGCCACGAAT | TTGATGAGCT | 240 |
| | GATTGAAGTC | GTTGCGCATG | TGCTCTCGG | GTATGAATCG | TGGCACAGTC | AGCGTCAAAG | 300 |
| | CTCGCTGCGT | CATAGGACCG | TATGGTCCCC | GTGGGTACTC | GTGGACATCG | AAGTTATCAA | 360 |
| | GCAGATAGAA | ATCCTTGATT | TTGCCCTTGT | CTGCGAGAGA | CCGCAGGTAC | GCCACGAAAA | 420 |
| 50 | GGTGGTACAG | CGCGCTTCCC | CGGTTACGGT | AGATCTTGGT | CAGAATAAGT | TCGTCTGCTG | 480 |
| | TGCCCTTCATC | GTTGGCATCC | TTGTACTCTT | CTACCGCCTT | GCAAGAGGGG | AAACACACCT | 540 |
| | GGCCCGCGGT | GAATATTAAG | TCCATCTGCG | TCGTCTTCTC | CACCAACAGG | TCCGTACGCC | 600 |
| | CAACGATCGT | CACCAGGATT | TCCAGAAAAA | CGTAAGTCGT | GCACATGT | | |

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1648UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTAGCAG | GTGTTGAACA | GATAATGGAA | TGGCTCTCCT | ATATTCCAGC | TAAACGTAAT | 60 |
| | ATGCCCGTAC | CTATACTGCA | GTCAGAGGAC | AACTGGGATA | GGGATGTTGA | ATACACACCA | 120 |
| 5 | ACACTTCACA | GCCTTATGAT | GTACGCTGGA | TGATTGAAGG | CCGCCAAGGA | CCTGATGGAT | 180 |
| | TTGAATATGG | TCTGTTTGAC | AAGGGTTCCT | TCAGGAAAC | ATTATCAGGC | TGGCCGAGAG | 240 |
| | GCGTCGTTGT | AGGCAGAGCT | CGCATGGGTG | GTATCCCGCT | CGGTGTTATT | GCCGTTGACA | 300 |
| | CTCGTACAAT | TGAAACTGTG | ATCCCTGCCG | ATCCGGCAAA | CCCTGCATCC | ACAGAAACTT | 360 |
| | TGATTACAGGA | GGCAGGCTTA | GTTTGGTATC | CTAACTCAGC | ATTTAAAACT | GCGCAGGCCA | 420 |
| | TAGCTGATTT | CAACCACGGA | GAACAACCTC | CACTCATGAT | ATTAGCAAAC | TGGAGAGGGT | 480 |
| 10 | TTTCTGGTGG | TCAAAGAGAT | ATGTTCAATG | AGGTCTTGAA | ATATGGCTCC | TTCATTGTTG | 540 |
| | ATGCTCTAGT | GGATTATAAA | CAGCCTGTAT | TCGTATACAT | ACCTCCAACA | GGTGAGTTGA | 600 |
| | GAGGTGGTTC | CTGGGTTGTG | GTGGATCCTA | CAATTAACCT | TGACCAGATG | GAGATGTATG | 660 |
| | CTGATTCCGA | CTCGCGGGCA | GGTGTGCTAG | AACCTGCTGG | TATGGTTGGT | ATAAA | |

1649RP

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|----|-------------|-------------|------------|-------------|------------|-------------|-----|
| | GATCAAAACGC | AAAACCTGTGA | CGCAGAAAAA | AGTTTTCGCTG | ACAGACGACA | TGCTCGCAGG | 60 |
| | GCACCAGCGG | GTGGGCAACG | GAGCGGTGCG | GTTCCTCAGCG | ATGGACCTCG | GGGCGACCCAC | 120 |
| | GAATCTTTTG | CTAAACAACA | CTATCAACAA | GACCAAGTTC | AGTCAGCTAA | AAAAACCGCT | 180 |
| 20 | AGATAGTATC | GAACCTGCATA | ACCAGCAGCT | GCGCGCAGAG | AACAATAGTT | TGAAAAATCGA | 240 |
| | ATTCCAAAAG | ATGAGTTCCA | GATATAACTC | CATGGTGGAG | AACCTCGTGT | CTCTTAAAAA | 300 |
| | CTACAATAAT | TCCCTCGTTG | AGAACTTCAA | TCTGCTGGTA | TCCACGCTGG | CGCAACAGGG | 360 |
| | CCTGAAGGTT | CCCCATCCAT | TAAACCTCGG | CAACTATGCA | TCTTCACAGG | TTGCCAAAAA | 420 |
| | TTCATCTGCT | TCCGACGTTT | AACCGCATGT | ATCGCCGTTG | GGTACTGTAG | CACCTACGAA | 480 |
| | CATACCCTTG | GCGCAGGCTA | CCCCGTCGAA | AGAAGAGGCC | AATCCTCCTA | CAAGCCTGCG | 540 |
| 25 | CCCAGGCTTC | CATGTTCTGC | TGGTAGAAGA | ATGATTCCGGT | TTGTATCCAA | CTATGTTCCA | 600 |
| | AATTTCTGAG | AAAATATGGC | TGTTCCGGTG | AAGTCGTAAC | GGACGGCCTA | TCTGCTATTG | 660 |
| | AAACAGTAGA | GAAATTCCAG | TACGACCTCG | TTCTGATGGA | TATCGTGATG | CCCA | |

1649UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCGCTGGC | GCGGGCAGCC | ACATGCGGCG | GCATTTGACG | TTCTACCACA | TGCAATCTAT | 60 |
| | GGCGGCTGTG | CGCGCGTTGC | GCCCGCAGGG | GAAGTACGGG | CTGCGCGAGC | CGCCAGCGGA | 120 |
| | GGCACCAACG | CCGGCGTTGC | CCGACGTGGA | TGTGGTGTCTG | ATGCCCGGTC | TAGGGTTCTG | 180 |
| | CGCCGATACC | GGCGCGCGCC | TGGGACGCGG | GGCAGGTTAC | TACGACAACT | ATGTAAGCCG | 240 |
| 35 | TACGCGCAGC | CTGCACGGCA | GGAGACCGCT | GCTGGTTGGG | CTGGCGCTCA | GCCAGCAGCT | 300 |
| | GATGTTGCAC | GTCCCGCTAG | AGCCGCACGA | CCAGTGTCTG | GACGCGGTGG | CCTGCGGCGA | 360 |
| | CGGACAGTTG | AGGTGGGCGC | ANCGCGCGCC | CGGGGAGATA | GTTGATATAT | AAGTGTATCT | 420 |
| | AGCCTGTAGT | GAAGCTCCCT | TTGCGACGCA | CGAATGTCCG | CGTGCCGCTC | TGGTTGATGA | 480 |
| | TCTCGGCCTC | CAGACGGACG | TTGTTGCCGT | GGTCTCTGAC | GCGGGTGGTG | CGGACCACAA | 540 |
| | CGAACTGGTT | CGCCAGGGTC | GGGAAACAAT | ACAAGATCTT | GATGTGCTCG | GTTACCTCCT | 600 |
| 40 | AATCGGTGCC | GGTCACGAAT | GTGACTGCCT | CCCGCATCAG | GTGCTCAGC | ACCGTGCCCA | 660 |
| | GGA | | | | | | |

1650RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGCTCTG | CCGGGACTCG | ATTTTGTGTC | ACCGGCCACG | CAAGAAGGAC | CTTGCGTGCA | 60 |
| | TCATGTACAC | CTCGGGCTCG | ACAGGTGACC | CGAAGGGTGT | GTGCTTGACC | CACGCTAACA | 120 |
| | TCGTGGCGGG | CATTGGCGGT | GTTTCCGTTG | TGATCAACCG | CGCGATTGTG | AAGCCTGACC | 180 |
| | ATCGTGTCA | CGCGTCTTTC | CCGCTTGCGC | ATATTTTGA | GCTTGTGTTT | GAGTTGACCT | 240 |
| | GTCTCTACTG | GGCGGCTTTC | ATTGGCTACG | GCTCCGTCAA | GACGTTGAGC | GAGGCTTCGG | 300 |
| | TCCGCAACTG | TAAAGGCGAC | ATGAAGGAGT | TCCGGCCGTC | CGTCATGGTC | GGTGTCGCAG | 360 |
| 50 | CTGTCTGGGA | GGGTGTCAGG | AAGGCTATTG | TTGCGCAGGT | CACTAAGTTG | CCTCCGTTCA | 420 |
| | AGCAAAGAT | ATCTGGGCG | GCCTACCACA | CCAAGCTACG | CATGAAGAAG | TGCCACATTC | 480 |
| | CAGGCGGCGA | TCTAATAGGA | AGCATGATCT | TTAAGAAGGT | CGGTGAGACC | ACTGGTGCCA | 540 |
| | ACCTTCGCTA | CATCTTGAAT | GGTGGCTCTC | CATTGTGCGG | GGATACGCAA | GTTTTTATTT | 600 |
| | CCAACCTGAT | TTGCCCGGTG | TTGATTGGTT | ACGGCTTAAC | GGAGACTGTG | GCGAATGGCT | 660 |
| 55 | GTATAGTGCC | TCCACACCAC | TTCAAGTACG | GGGTTGTGGG | AGACAT | | |

1650UP

| | | | | | | | |
|----|-------------|------------|------------|-------------|-------------|------------|-----|
| | GATCCATTTTC | TCATGGAGAT | TAACGCTATA | TGCGAGGAAA | GCAATAACAA | GAAGCAAGCC | 60 |
| | AAGAAGTCTG | TTAACTTCTC | TATGCTAGGG | TTGACTGATT | TTACCAAAT | CAAAAAAGCC | 120 |
| 5 | GATACTACAG | ATGTCTGGAG | AGCGTTTAGG | ATGTACGACG | AAGTACAAAT | GAAAAAGAGA | 180 |
| | TTTAGTTATA | AATGGGATTA | TGATAAAGTG | TCCAGGGAAT | TGGATGAAGA | GACATGGAAT | 240 |
| | AAGATTATTA | ATAGGGAAAC | TTTGAATTTA | TTTGCATTAG | TGGAAAAGATA | TACGGTAAAG | 300 |
| | ATTGAAAACG | ATGCCAATAT | AACCTATTGG | AGTTCTGTCTG | TTATGCGCAA | CTCCTGTCTG | 360 |
| | AAGCATGAGG | CTACAGGAGT | GAGGCAATGT | GCCAACTTCT | TCTGTGGTAA | ATGGGAAGAC | 420 |
| | CACCCGAAGC | AGTTTCCCAA | GTGCCGCCGT | TGCAAGCGCA | CAAAATATTG | CAGTTGTGAG | 480 |
| 10 | TGTCAACTAC | AATCTTGGGC | ATATCATCGG | TACTGGTGCC | ATGATGTTGG | CTCTGTCTTC | 540 |
| | ACGGGCACCT | CCTCAACGGC | AAACACCACT | GGGACACATA | CGCCAAATGC | TGTCGGTCAG | 600 |
| | TCGGCTGGAA | CCACGACCAC | TACTACCACG | GCGGCTACGG | AGGTAGATCA | ATCCATTTTG | 660 |
| | ATGACAGCAA | GGGG | | | | | |

1651RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATGGCGACG | TTTACCGAAG | AGCAAAAAGA | AAAGTACGCG | ATGGCGTTGA | AGGACAAGGG | 60 |
| | GAACGAGTGC | TTTAAGGACC | AGCGGTACGA | GGAGGCGATC | AAGTTCTACG | ACTGCGCGTT | 120 |
| | GAAGCTAAAA | GAAGACCCGG | TGTTCTACTC | GAATCGGTCG | GCGTGCTACG | TGCCCTTGAA | 180 |
| 20 | CAAGCTGGAG | AAGGTTGGG | AGGACACCAC | TGCTGCACTA | AAGCTGAAC | CCGACTATTC | 240 |
| | TAAGTGTTTG | CTTCGTCTGT | CAACAGCTAA | TGAATCGTTG | GGTAATTATG | CTGATGCTAT | 300 |
| | GTTCGATTTA | TCTGCCGTAT | CTCTATACGG | CGGGTACAGC | TCGCAGACAA | TTGAGCCCGT | 360 |
| | GCTGGAGCGG | AATATGAACA | AGCAGGCTAT | GCAAGTATTG | AAACAGAAAC | TCTCTGGTGG | 420 |
| | AGAGAAACAC | GAACTTCCCT | CCAATACTTC | CTTAGCGTCT | TTCTTCCGCA | TCTTCCCTTC | 480 |
| | GGAGACATCG | TTGGAGAACT | ACGATGAAAC | TTCCGAAGCA | GACCGCATTC | TTCTCAAGGG | 540 |
| 25 | ATTGTGCGCC | CTACACGCGC | GCCAGGCAGG | CTCCTATGAA | ATTGCTGATG | AAGCCTTTAC | 600 |
| | CGATGCTGTA | GAAAAGTTCA | CC | | | | |

1651UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|-------------|-----|
| 30 | GATCGTGATT | TTCCGCGGGCT | GCATCCTGCA | GGCTCCACAT | CATGCCGTGC | GCCAGGCTAT | 60 |
| | GCTGAACATC | CCCAGCGGGG | TCTACTGCAC | GTTCCTGGG | CAGTCATCGC | CTGCGATCCA | 120 |
| | GTACGGTATC | TCGTCTACAA | ACTTCATCAC | ACACGTGAAT | GAGATCGAAA | CCCCAGACCT | 180 |
| | GGACCGCTTT | CTCGAGGTGG | TACGCACGAT | ACCAGACAAC | ACCTACTGTA | AAATCCGTCT | 240 |
| | TGTGACCTTC | GACAACGTGC | CTTTTGCTAT | TCCCTGAAG | ACAAACTACC | ACTACTTCCC | 300 |
| 35 | CACCAGCGAG | CTCTCCCGCA | ACTCCGACAC | CGGCCGCTGG | ATTGAGCACC | TCTGCAACGC | 360 |
| | TACCCCGCT | AAAAACTAGC | AATAGACTGA | TATCTCTTAT | AGAACGTATA | AACTATTTCAC | 420 |
| | ATGTAACCCG | ATCACGTGAC | GAGCGCTGCA | CGCAGCTCGT | GCAGCATGCT | CAGTGGTATG | 480 |
| | GCAGTAGGCG | CCGCAGACGC | TTCAGATGGG | CACCTCGCCG | CATGGTCCGC | CCAGAGAGCT | 540 |
| | GCTTCAGCGC | GCGCTGTCCC | AGCCTGTGTT | ACCGTGGCTG | CGGCCAGCCT | TCGAACGCTT | 600 |
| | GTACCTCCTG | CAGTCTTCCG | CCATCTCTTA | GCTGCGCCTT | TGTGCGTCTT | CATTAGTGTC | 660 |
| 40 | CGCACCATGA | TCAGCGAGC | | | | | |

1652RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| 45 | GATCTTCGTT | CGTGAAAACC | TTGCACGTCT | TCATGAGCTC | AAGAAATGCC | TCTGCATCTA | 60 |
| | TTCTGTCCGG | TTGGATTCTG | CCTTCCTTAT | TGTCCTGAAT | CATGCGCGCA | AAAGCGCGCG | 120 |
| | GCGTCCAGTC | ATGACGGGAT | CGGCCCTTAT | AGGACTTCCC | TGCAAGCCGC | ATGAGGCTCC | 180 |
| | GCCAGCCATT | TTCTTCAATA | ATATTGACAA | GTCTTCTGTT | TTCCAACACG | ACCTTGTTCTG | 240 |
| | CGAGACTGTG | GAACGTGTTT | ACGTCTATCT | GCTCAAGTAT | TTCTACCCCT | TCTCAGCAG | 300 |
| | ACCATCGCAA | GTTGCAATCT | GCCTCTTGGA | ATGTCTCCAT | AAGCTTTTCA | TTGATGTTAT | 360 |
| | CCACTGCTTT | ATTGTCAAG | GAGAGGATTA | GTATTTTCATT | AGGAGCTACA | ATCCCTTCGT | 420 |
| 50 | AAACCAGGTT | GTAGACTTTA | TGCAGTAGTG | TCACGGTCTT | GCCAGACCCA | GGTCCCCTCA | 480 |
| | CCACATTGAC | AGTTGTACAA | GGCTCATATG | GATGTGTTAC | TACTCGTGAT | TGGGACGTCG | 540 |
| | TCAGTGCTTT | CATTCAATGA | TGATACATGC | TCGAGCGTCG | GCGAAGGAAA | TAAATTCGTG | 600 |
| | AATTTCCGTT | TTAAGATACT | CAAAAGAAAT | GAGATAACCG | CCCACAAGGG | CGGAGTAGAA | 660 |
| | TTACAGCAGC | TATTGAATAT | ATTTAGTTTA | TT | | | |

#52UP

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| ATCTCCCCA | CCATTCTCTT | CCAGCGCCTT | CTGTNAGCGT | TCCCAGCGTT | GCTCTCTCGC | 60 |
| TTTTGCTTC | TCTCTCTTAC | GGATTTTCGC | ATACAGCGGC | TTATTTCAGTT | CGAACTGTTC | 120 |
| TTCTTTCCAC | TGTTTCTTCC | ATTGCGACTT | CGACATGCCT | TCCGGAACGG | GCGGCAAGGC | 180 |
| CCCCGTGGT | TTTGGCCGAC | TCAATGTTTC | ATCATTATTA | GTTTCAGGAG | TCATTGCCCA | 240 |
| TTTGAAGGAC | TCTTAGCGCA | AGGTCTTGTC | ACTGAAGTAC | AGTAAAATGG | ATGCCCTTTC | 300 |
| EGGTGATGA | GGCAATGACC | TGGTGAAATT | TTTCGCCCCAT | GGTGAGGCTG | TATAGTGGTC | 360 |
| AGTGACAAC | AGTTCAGCCC | ATATATGGAG | CCCCTAGGTC | ATATAAAGGG | TCAGGAGCCC | 420 |
| CTAAAGTCT | TGTATTTCTG | ACCTTTTATT | GGGGAGCTTT | AGGGCGTGTG | TCTCTATCCA | 480 |
| AGCCGTGTG | GTGAAAAGCG | TCTCAGCTCA | GCGCGTTCTA | CTACACTGAG | ATTTAAAAAC | 540 |
| AACAGCGAA | GCAGCAGAGT | ATGACGTCCT | TAGCAACTAA | ACTCGAACTT | CCATGGGTTG | 600 |
| GAATACCG | GCCGAAGCTG | CTGAAAGATG | TGTGGGAAAC | GAWGAAACGG | TGGAGCGCCT | 660 |
| CAACAGATG | CCAGGGATGG | AAATATGCCA | CACTTGA | | | |

#53RP

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| ATCTTTGAT | GCTATTTCTG | ACCTTAAGGG | CTGTTCCGTG | CTGGAGATGA | TCTCCGGCTA | 60 |
| ATAGGGGAG | ACCGTCTTCC | TGAAGGGTGT | TGCCTTATAT | ATAAAGCGGA | ATAAGTTTGG | 120 |
| ATGCTTACC | ATGGAGGACC | TGTTTGGGGC | CATTAGTGAG | GTAGCAGGCC | TTGATCTCAT | 180 |
| CGGAAGGCA | AAAGATTGGA | TTCTAAAGAT | CGGGTACCCG | GTTCTGGACA | TCAGTGTGT | 240 |
| GTTCGGGAG | ATTTCACTGT | CACAGAGACG | GTACCTTTTCG | AGCGGACAAG | CTGACGCCAA | 300 |
| GACGACCTA | ACCACCTGGT | GGATTCCCTT | GGAAGTACAA | CAGGACTCAA | CTTGCACTAC | 360 |
| ACAGAAATG | GTTTCTAAAT | CCCAAGAAAC | AGAGATCTCA | GCTACCGATT | TTGTGTTCTT | 420 |
| AACAACGAT | GCCCACGGCT | TCTTCCGGGT | GCATTATGAG | GATGAGACTA | TTCTGGCTAA | 480 |
| ATCTGCAAG | AACATAGCGC | AGCTGTCCTC | ACGCAGTAAA | ATTGCGTTAA | TTTCGGATGT | 540 |
| GTTCGCACT | GGTACCTTCA | CGCAACTCAT | GGCTGTTCTG | TCTGCAATTCT | CTGCAACGCA | 600 |
| TCGCAAGAC | TACTATGTTA | TGGAACCTCT | CATTGTCCAT | TTTCCACTCG | GCCTGCTCAA | 660 |
| CTATATATCG | CGATGCGTGC | CAGAGATCCG | CAAGAAGCTT | GCGGCGT | | |

#53UP

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| ATCTAATAC | TGGGAGCGAC | TGGGCGTTGT | GCGCGTGTCT | ATCTGTATGC | GAACCAGCGA | 60 |
| GCTGTGATG | GAGACANATT | GTACTACGAT | GGTTGCGCGC | TCATTGCTGT | GAACGCGCGA | 120 |
| TTGTGGCCC | AAGGCTCGCA | GTTTTCGCTG | AGGGATGTGC | AAGTGGTTAC | TGCAACTGTA | 180 |
| ACTTACAAG | AAGTGAGAGA | TTACCGGATG | TCTGTGATGT | CGCGAGGGTT | GCAGGCAGTA | 240 |
| GAATAACG | TGACTTTTGA | ACGTATTCAA | GTACCTGTAT | AACCTGGCCGC | GATGCAAGAT | 300 |
| GGTTCAATC | CTACGATTAA | CCTGACGAAG | GCGAAAGCCC | CATACTATCA | CAGCCCAGAG | 360 |
| AGAGATTG | CGCTGGGCCC | AGCTTGTTGG | TTATGGGACT | ACCTACGTCG | TTGCAGAGGA | 420 |
| CAGGCTATT | TTCTTCCACT | ATCTGGGGGC | ATTGACTCAT | GTGCCACTGC | TGTAATTGTG | 480 |
| ACTCTATGT | GTCGGATGGT | TGTCAACGAA | ACATCTGAGG | GTAATCTGCA | AGTAATTGCA | 540 |
| ATGCGAGAA | GATTGGCTCG | TGCTAGCGAT | GACTGGATTG | CAACCGATGC | ACGTGAATTT | 600 |
| CAAAATATGA | TATTTTCACAC | TTGTTTTATG | GGAACAGCAA | ACTCCACAAA | TGAGACTCGC | 660 |
| ETCGGGCAA | AGAAACTTGC | GGAACACCT | | | | |

#54RP

| | | | | | | |
|-----------|-------------|------------|------------|------------|------------|-----|
| ATCTTATTA | ATTTTGATGG | TGCTATATTC | TAAATTCAAG | TAATGATAGC | GCGTGATGCG | 60 |
| TACGTACCT | ATACATATAA | CGCACAGTTC | TCCATCGTCT | ATGCGTGTAT | GAAAATCACT | 120 |
| CAGCGGTGC | GACACGCCAC | GTGTAATCTA | GTGAGTTTCA | AGTTCTTCCT | CCTCATCGGC | 180 |
| AAAGTTTCG | CCCCGGGCGG | TGAGGTTCTT | GAGCCGCTCC | TTGAGCTGCG | CGATAAGGCT | 240 |
| CTCTCCCTT | TGAGCATGCA | TGCGGATACC | CTCTAGAGAC | ATATGAGCCG | AATCTGCACC | 300 |
| CTTAAACCA | TGTTTCGCTGT | TGCTGCCAGT | GGCAGCTGCC | AGTTTGGGAC | TGGACAGACC | 360 |
| CTCTGTCCA | TCTTTGTAA | AATCCTCGGT | CGTTGCCGAG | TTGGAATTCA | TGGTTCCCAT | 420 |
| GTGTGCAAG | ATTTTCTCCT | CTTCTGTTAG | TTCCAGATGG | GTACCTGTCA | GATTGATCAA | 480 |
| ACCTGCCC | CTTTTACGGC | GCGAGAGCTT | GGGCAGAAGA | GAGTGCCCCG | GTTGGCGTCG | 540 |
| ATCACCAAG | GTTTGTAAATG | GAGGTGTGAG | ATCTCGGAGT | CCTTGCTAGT | CTCAGACA | |

1654UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCGGGGC | GGGTCCGCSG | CAACCAACGA | TGTCACGTGT | GGATACCAGC | GACCTGGTAG | 60 |
| | GCGTTACGGT | GGGAGGAGCA | GCGGTGGCG | GAJAAACCGC | AGCAGAGCAA | GTA CTGGCTG | 120 |
| 5 | AAGTGGGGGC | CGTATCTGTC | GGAGCGGAGC | TGGGCGACGG | TGCGGGAGGA | CTACTCGTTT | 180 |
| | GACGGCGACG | CGTGGCGGCA | CTTCCCGTTC | GAGCAGGCGA | ATGCGCGGGT | CTTCCGGTGG | 240 |
| | GGCGAGGACG | GGATCTTCGG | CGTGAGCGAC | AACCGGCAGC | TGGTGTGCCT | GAACGTGGGG | 300 |
| | ATGTGGAACG | GGCGTGACGA | GCTGCTCAAG | GAAGCGGATG | TTCGGGCTGA | CCGGGCCGCA | 360 |
| | GGGCAACCAC | GGGGAGGACT | GCAAGGAGCT | GTA CTACTAC | CTGGACAACC | TTCGAGCCA | 420 |
| | TGCGTACATG | AAGGCGCTGT | AYAAGTACCC | GNTCAAGCGG | GCGTTCCCGT | ACCAGGAGCT | 480 |
| 10 | TATTGCGGGC | AACGACGCGC | GCGGGTACGC | GGAGCGCGAG | CTCGAGGTGT | ACGAACTTGA | 540 |
| | CGGGCTGTAC | CGCGAGGCGG | CGACCGGCGA | C | | | |

1655RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| 15 | GATCCACTTT | CCACTCTGAC | ATCGGTCAAT | CAACGCTGGG | CACTCAGGTT | CAGTTCTGAA | 60 |
| | GCAATTGCAG | TCCCCGCACT | TACCCCTCAT | TTATTTAGAG | ACTTAGTGGT | GTTATAAGTC | 120 |
| | AGTCCTATCG | AACAGCTCTC | GACAGTCATC | GGAAACGAGA | AGTTACCCGC | CCTTGAGACA | 180 |
| | CAATCTGTTA | CCCGACTTTG | ATTTACATGC | GTTACCCGCT | CTGGGTCAAG | TGCCGGGAAG | 240 |
| | CACATGACAA | AGGCCGAGAG | CTAGTTACGT | GAGGCTCATT | GGGGTATGCC | GGAAACTCTA | 300 |
| 20 | ATGACTAGAT | CATCCGAGAA | GCACCGGTAT | ATAAGACGCA | TCACGGTGGT | GCTCGAGAGA | 360 |
| | GTGTGTAAAA | TGCCAATTGC | TTAGCCACTG | ATGCCAAATA | CACTGGATAA | GAGTTACGTA | 420 |
| | CAAAACGGCC | CTTGGAGGGA | CGGGGTGTTT | CAAGGGAAAG | TGGTCTTCGT | CACTGGCCGG | 480 |
| | GCCGGGACGA | TCTGCAGGGT | GCAGGCGGAG | GCAATGGTGC | TACTTGGTGC | CAAGGCTGCG | 540 |
| | ATCAATTGGGC | GCAATGTGGA | GAAGACTAAG | AAGGCGGCAG | CGGAGATCGC | GGAGTTGGGC | 600 |
| | GACTCGGCTG | ACTGCGTGCT | CGGAATTGGC | GGCGTGGACT | TCCGGGAGGT | CCCGGACATG | 660 |
| 25 | AAAGCGCGCG | GTGGAACAGA | CGGTTGCCGC | GTTT | | | |

1655UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCTCTCTG | ACCGCCCCCA | AACGCTGCTC | CGCGCACATT | GACACTGGTG | TTACCACCCA | 60 |
| | TTATGTCGGC | GGCCGTTTCA | TCCCAGATGC | CCTGGCCCGT | CGTCATGGTT | TTGATCCGTT | 120 |
| | CCCGTACTCT | GGCACCGATC | AAATACTGCG | TATTTGAGTG | CATATTGCTT | TATTCTATAG | 180 |
| | TCTGCGTACA | TAAGCCGGGG | TTTCAGAGGG | CGGGTAACGA | TGACGCGTAA | CGTTTCTTTT | 240 |
| | TCGTGATATG | TAAAAAGAAA | TGTGCAAAAC | TTTTTCATGA | GATGAACGTT | ATACTGGCTT | 300 |
| | GTTTCTCTCT | TGAAGTCAAG | AATCTCTAAC | CTTTGAAGGT | GATTAATAGG | CTGTTGCGTC | 360 |
| 35 | GTGTTGGAAC | ATTGACGGAG | CTTTGCTTGT | TGTAAGCGAT | TAATCTGTGT | TGCGAGTTTC | 420 |
| | ACTTCTCTGA | ACTGGTAGCA | GGTCTGACGG | GTCTGCGAAG | GGCGTCGGAG | ACTTGCAAAT | 480 |
| | ATAGGCGCAA | GACAACCTGC | GAGATACAGG | GGAGCTGCTG | CAGCGAACAG | GTGGAGTGCA | 540 |
| | GGCGGATCTT | GAGGACTAGC | TGCTCTGGGA | CGAGATGGCG | AAGGAAAGCC | TGCGGATAGG | 600 |
| | CGTAGCAAGC | ACGGAGCCCA | AGCGGGTGAA | GGTGTTCATC | CTGGAAGACA | GCGAGTGGAG | 660 |
| | AGACACTGGG | ACGGG | | | | | |

1656RP

| | | | | | | | |
|----|-------------|------------|-------------|------------|------------|-------------|-----|
| 45 | GATCTAGCGA | TCAATCGCAG | CTAACAGATG | CTCTGACATT | ATGCATGAGC | GCAATCATGA | 60 |
| | TGGACACATC | GAAGCTCAAG | CATAAAGTAG | AGGACTCGGA | CATGCAAGCG | TACGCCATCT | 120 |
| | GCAAAAGCGT | GTTGACCAAT | ATGAACGAGG | ATGCGTACTA | CAAGCGCATG | AAGGCAGCAA | 180 |
| | AGAA TGACGT | AGATGGCTTC | TCACTCGATG | AGATTCTTCG | TAAGGACTAT | AAAGAGTTGG | 240 |
| | TGTTCCCGAG | CCGCACTGCA | GATCTACGTG | TTGGCGTACC | TACTGTGCTG | CGCTCTTTTCG | 300 |
| | AATGGATGCG | CGAGAAGTTC | GGCGACAATG | GGACTACGAA | GCTCTGGCAC | AGTTTCTCTTC | 360 |
| | TGGAGCATAA | GTTAGATTTT | CTCGTGGTGC | TCACAAATFA | GAAGGCCAAC | GAGGGTTTGA | 420 |
| | AACGGGAGTT | GGCTATCATG | GCCAACCTCT | GCGACCGTGC | GCAGCAGGTC | GAGTTCTTGA | 480 |
| 50 | TCCAAAGCCT | CACCCAGAG | TTGCAAGTTGA | GCAAGACCTC | TGTCTTCTCC | CCCGGCTCAC | 540 |
| | TCGTCAATTGA | GACGTGCGAC | CAGAGAATGC | TATCTGCCAG | TCCGAAGCAA | ATAGTACCTC | 600 |
| | TCTCAAGAG | AACCGTCGCC | GAGTTATAGC | ATGCTTATGT | AACTAACGTT | CCAGTTACCA | 660 |
| | TCTTCCACA | TCTCAGCGGC | AATGTCGCGT | TTGTGCTCTC | CAACC | | |

1656UP

| | | | | | | | |
|----|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCTCTTCC | TACCCCTGTAT | TTCTACTTAG | CAGGAACCTA | AATATGTCTGA | AATCATCGCT | 60 |
| | AGTAGGATGT | TTTTTCTACA | ACACAGACAT | TTACGCCAAC | CAGAACGCTA | AGGCATGCAG | 120 |
| 5 | TATCTCGCGG | AGTATCTGCC | TAGGATCGGC | GTAATGCTAA | TAGTGGTTGC | GGGAGAGGCT | 180 |
| | GGTGAGGTTG | AACTGGGAAA | ATTGGGTGGG | CATAGGTTGA | CTGTACACAGT | AAATGGAGCG | 240 |
| | GCCGAGGTGA | TCGAATTGCC | CTGTGAGGTT | GATCCGCTAG | CGCGGCCGCG | TATTAGACAC | 300 |
| | TCCGAAGGTG | CATTTGAGGT | CCGGCTGAAG | GCGGTGAATG | GGACTGAGGG | CCGGGGCGCG | 360 |
| | GACTTCACTA | TGCTGGCTGC | AGAGGACGGG | TGGGGGCGAA | AAGACCTGGC | GCGTGCTGAA | 420 |
| | CTGCGCTGCG | CGGCGTGCGA | CGGGCTGCTG | GTTACGGGCG | AACATGCAGG | CGCGTGAGCG | 480 |
| 10 | CGATGCCCTC | CGAGTTTGG | ACGGAGCTGA | TGGACTACTG | GCACTGCCAC | AAGCCTGCGG | 540 |
| | ACGAGTCTGC | GGGCGCACAG | CAGTACCTGA | CGAAATATAA | CGCGCTGCTG | CCTGCGGACG | 600 |
| | GGGAGCTGCT | GGTGGGGGAC | ACATTCTGTA | CGGTGCGCGA | GGGTCTGCTG | TCAGAGAAGC | 660 |
| | TGGCGATGAG | | | | | | |

1657RP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCGATTTA | GATTTACCT | TCAGGCACAC | TAAGAGATGG | ACTCCTTACA | CTAAGGGTGG | 60 |
| | GCTGACGGGC | GGCGTTGAAC | GTGTTTTGCT | CGACGGACAG | ACTGTCTGT | TAAGCGGTGA | 120 |
| | CCTAGTACCA | TCTGCAGCTC | TAGGTGAGGC | CGTTGTACCT | ACTTCAAACA | ATTACACTTC | 180 |
| 20 | GACTCCTCTA | TTGAACGCGG | AGCCATTGCA | CAGCTTTGTT | CCACCTTCTA | GCTCGGGTAA | 240 |
| | GAAGCGGTTT | TCCTTCTCCC | GCGAGCGGGG | AAACTCGTTT | GCTTCAGCTG | GTGACCACGA | 300 |
| | GGAGCTGTTT | ATCGACCAAC | CGCTGGAACA | AAGGTTGATG | TCTTCAAGGC | CACCAAAGGA | 360 |
| | GCTGTGCCCC | CCAAGTGCGC | TGAGAGAGCT | AGTCCGTGCG | CACAATCCAT | TCAGAGGAAG | 420 |
| | GAATATCTTA | TCTGTAAACC | AATTCAAACG | TTCCGACTTC | CACGCCTTGT | TCGCTGTGGC | 480 |
| | CCAAGAGCTG | CGTGCGGCTG | TCGAGAGAGA | GGGCGTTCTC | GAATTGATGA | AGGGCCGCCCT | 540 |
| 25 | CTTGACGACC | ATATTCTATG | AGCCATCAAC | GCGCACATCC | TCCTCTTTTA | TCGCGGCAAT | 600 |
| | GGAGCGCCTC | GGTGGTAGAA | | | | | |

1657UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCAAGTCC | TTCCAGCCGA | GCCAGTCTCG | CACCGCATAC | CAGAAATGCA | TTCCGCGCAC | 60 |
| | TAGCGGGATA | TTCTGCGCGC | TGTACTCGGT | CCACGAAAAG | GCCCAGCGGT | GTGCCAACGC | 120 |
| | AAAGGCTACC | ATCTCCAAAC | AGAGCGCCAC | ATTGTGGTAC | ACGTAGCCCA | TGTTCTGTCC | 180 |
| | CSCGCAGTCC | TGAATCACGT | TCAGGTAGTG | GAGAAGCGTG | ATKACCATAC | CCTGCCAGTA | 240 |
| | GGATGCAAAA | ATGATCAACT | TAACACATAA | GAATTTAGGC | CATGGGTTGT | ACTTGCGCAA | 300 |
| | CTCGTTGTAT | AAGCACTTCC | AGAAGAGCGC | CAAGTTATAG | AGCGACCATG | ACGCGCTCCG | 360 |
| 35 | GTTGTATACA | AGCGTCAACC | ACTTACATCC | CAGATCCCAC | TCCAACACCT | GGAACGCAGA | 420 |
| | CATCCCCAAG | CAGTACACCG | GCTTGAACCA | CACGTACTGT | AGAATGCCCC | GCTTCACAGC | 480 |
| | CAATAACGCC | TTGGGGTCCG | CCATATCGAC | CATGGGCAAC | ACCCAACGTC | CCACAACGGG | 540 |
| | AATCGGGTGC | TGGATCCTTT | TCTGCTCCGG | CGCAAGGT | | | |

1659RP

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|----|-------------|-------------|------------|------------|------------|-------------|-----|
| | GATCAAAAAGT | TGATTAAACT | AATAAAAGAA | TTATTTTATG | TATATTGATT | GTATAGTCAT | 60 |
| | TTTCAGACAA | AAATCGTGGA | AATTTTAGCG | GCCAAACATA | AAAGTCAGAC | ATTAGAAACT | 120 |
| | GACAGATACT | TTATTTACTG | CATAATTACA | CTAAAAACAA | CTGTTCTCAA | AAACTACGGA | 180 |
| 45 | TTATTGACCG | CCCCCTCACT | AATAATGTAC | TCCTTCTATC | GGTTTCTTGC | GGGTAGAAGC | 240 |
| | ACGTAAAGAG | ATCAGTTTCA | CTTTGCAATT | TGGGCACTTT | TACGTTTCCA | CTTAACGATC | 300 |
| | ATTCTAGTGT | ATTTTATGAC | CAGGAAAGAA | AAGGAGCCTA | AAAACCTGAA | GGCAGCCAGA | 360 |
| | TCAGCGACTG | ATCCCAAGAC | AAAAACCAAA | TATTTGTTAT | TAGAGGTTTC | TTCAGGTGAG | 420 |
| | TATATTTGGG | TTATCATCAT | GATCAAAATC | AAATTGGAAA | GCATCCATAA | CATGACAATT | 480 |
| | CTAGTCCGCA | CATCACGGTA | GTGATCTGCT | TGCTTTTGGA | TAGGATCAAC | TTTTATTTCCT | 540 |
| 50 | ACCACTTCAT | CCGATTTTAG | ACGACCTTGA | TTTCCTGGTA | TTTATTATCG | ATGTCCTGTG | 600 |
| | CCCATTCAGT | ACCCCTCAACT | ATTGTGTTGC | CACGGGGCCC | TGGGTAACCA | TAGCTTCAGA | 660 |
| | CTTTGGCTTG | GACCCCTGCG | AAGCGCCTTT | TGT | | | |

1659UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGAGTGG | TCCACCAGGT | AGTCCTGGCC | CGGCTTCACG | TTCCGGCGGG | TCGAGAAGTA | 60 |
| | GACCCGGTAC | TGCTTGCAAG | CCTTCTTCAC | CTCCTCGTAG | CTGCCCGTCA | GCCCCACGAT | 120 |
| 5 | GTCGGGGTGG | AACTCGGCCA | GGTACTCCTT | CAGCACCGCC | GGCGGGTCCC | GCGCAGGGTC | 180 |
| | GCACGTCACG | AAGATCGGCT | GCACGTCGAT | GCCCCGTTGT | TTCACTCCGC | GTAGCCACGC | 240 |
| | CGCCAGCTTG | TCCAGCTCCG | CAGGGCAGAT | GTCCGGGCAG | TGCGTGAAAC | CGAAGTACAC | 300 |
| | CAGCGAGAAC | CGCCCGAGAA | GGTTCTTCTC | CGTGAACCTG | TTGCCGTTGA | AGTCCACCAG | 360 |
| | CTGGAACGGC | CCGCCACCG | CCGGCCGCC | GTACCCCGG | TTCCGCTCCG | CCTCCCGCTG | 420 |
| | CACCTCCAGC | CGCCGCTTCT | CGCGCGAAAA | CACGTAGAAC | AGCCCGCCGC | CGAGCACAGC | 480 |
| 10 | AGCACCGCCG | CCGCTTCCA | CGTCGTGAAC | TCGATCGCCC | CGCCCTCGAC | CGCTGCGAGT | 540 |
| | GCGTTTCTTG | CGCCCCCAG | GGGATCCGGC | TCAACGGCCG | CCGCTTGCCC | GGCGCTCTG | 600 |
| | GCCCGCGGGC | GCTCTCTGG | TCCGAGCCG | TGTTCCGCG | AACCTCCGCA | CCCCGCCAAA | 660 |
| | CGCTGCTCTC | TGCTTGCAA | TTCCCGCAGC | TTGCCTGCAA | ACACCGAGTC | CTACTGATCA | 720 |
| | TCTCTG | | | | | | |

1660RP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAATTCC | ATGCCAACCA | AGATGAAGAC | CATCTGGGTG | AGTTAGCAGT | GCACTCTGCG | 60 |
| | GATACATGGT | CTGAGACGGA | TAGGAATCTA | ATTTTGAAAT | TATTGGGCAA | GTTCAAGAAT | 120 |
| 20 | ATCAAAGCTA | TTTACAAATC | CGAAGATGTC | CGCCAAAGGT | TGATGGAATT | ATTGGGTAGT | 180 |
| | CGAACGCTGG | AAGTGACAG | ACTGGCCCTA | GATGCGTTGT | TAGCATACAA | GGATCCAGTA | 240 |
| | GCTGTGAAAT | ATAGGGACAA | TCTGAAGAAC | TTATTAGATG | ACACGTTATT | CAACGACGAA | 300 |
| | GTAACAAAGT | TATTTGCTCA | GAATGAGTCA | AGGTTATTG | TCAACACTGA | TGAAAGATTA | 360 |
| | TTAATGCCCT | TCAATTTGCG | TATTTTATTT | GGCCGTGTTT | AGACACCTAA | TACCACTGGG | 420 |
| | ATCAAAAAGA | CAAGAAAAAC | TGCGGTGATA | ACTGTCTGTC | CAAAATTTAG | TGAGAAGAAT | 480 |
| 25 | ATTACTGACT | TCTTGGCTCT | GGGTAGTAAT | GGTATCAACT | ACCAGTACTT | CTTTGAAGAG | 540 |
| | AATGCGGTTA | TTCTGACAG | TGAGCTTACA | GCGATAAATT | TTAGGAGAAT | GCTTGGCTTC | 600 |
| | ATAAATGTCC | TAAGTGCTC | GTTGAATGTT | TTAGGTTCOA | ATTTCCCGGA | GGCGGTCAAG | 660 |
| | ACAACATATTA | AACCTCTCGT | TTACGCAATT | CACATGTGAG | GTCGTACTGG | ACAGAATAAA | 720 |

1660UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCTTATAG | ATTTTCATCC | CCAAGCTTAC | AAAGAGAACG | TTATCCACCT | GTTTTAGCCA | 60 |
| | GGCTTGATG | TATTTTCAA | TGGTACCCAT | GTTCTCCTGG | CCCAAGTTCT | TGAACAAGTT | 120 |
| | AGTTAGTAGC | AGACTAGCCA | TCTTCTGCA | TTAGGAGAG | TCGTCAATTA | CTGATACGTT | 180 |
| 35 | TGCTAGGAAC | ACGAAGAATG | AGGATGAAAG | TTTCATTAGT | AAAGCGGGCC | CAGATTTGTT | 240 |
| | GATCAGAAGG | TTAAGCAATT | CCATAACAGA | TTGACGACCT | TCTTGAGATG | GATACTGCAA | 300 |
| | ATTGTTGACT | AAAAATTTCA | ATTGTTTTTC | CAGCCTGCCT | TTACTTTGAT | CATATTCCAT | 360 |
| | GAAGAAGTGG | TAATAGACAC | TCCTGGCAAC | ATCCCTGATT | TCCTTAGCAT | GATTCTGTGAC | 420 |
| | CATGACTTCT | GCAACGTTAT | CAATAATATC | GTACAGCTTC | GGAAGAACAA | TATGTTTGGA | 480 |
| | AACCAAGGAT | TTCAAAAATC | CAAAAGCCAG | ACCTTGCTTA | TTGGGCTCCA | TCAAATCTGG | 540 |
| 40 | TTCAATCCGA | CCCAAAACAT | ATTCGAGCGC | AGAATCCTTT | AATTCAATGT | CTTTATAGCG | 600 |
| | GATAAGCGCA | GATAAAAAC | TCAGACCGAC | TTGACAAAGT | TCACCAGAAG | T | |

1664RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCTAGGG | TGGTTCATGG | CACTGAGCGG | GACGTGTTCT | TGGACCGGTC | GAACCGCAGC | 60 |
| | AAGAGTCTGA | AGTCCTTGAA | CGCGTCTCTG | GAGCGGCTGA | AGCGCAATCG | GCAGGCGGGC | 120 |
| 5 | TGGATTTTCC | CAGAGGGCAC | GCGGTCTGTAC | ACAACGGAGA | TGCAGCTGCT | GCCATTCAAG | 180 |
| | AAGGGGGCGT | TCCACCTGGC | GCAACAGGCG | CAGATTCCGG | TGATTCCGGT | TGTGATGTGC | 240 |
| | AACACGAGCA | CGGTGTTCAA | CCCGCGGCTG | GGCATCTTTA | ACCGCGGCAC | GATCACGGCG | 300 |
| | AAAGTGCTGG | AGCCGATCGA | CACGGCTAAC | ATGACCAAGG | ATGACGTGGA | CAAGCTTGTC | 360 |
| | AGCGACGTGC | AGGCCAAAAT | GCATGCGGAG | TTCGAGGGCG | TGGCTACGC | GCCTGCGATC | 420 |
| | GTGGACACGA | GCCTACCCGA | AGAGGCGCTG | CGGCCGGAGT | TTGTGGACTG | CAAGGAAGAC | 480 |
| 10 | ATCACGGAGG | TAAACGCGCT | CTCGAAGTAA | CCTTGCTTGG | TATCATATAA | ACGTTGCGAC | 540 |
| | GAGTTATGTA | CATATAGCGC | TGCTAAGTAG | GCATTCACTC | CCC | | |

1664UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCCGACTG | ACGGTGAATA | GGCCACCGTA | GCATGCGCCG | CTGAGCGCGC | TGGCGAACGA | 60 |
| | TAGCAGCGGT | CCTTCCGAGG | CTCTGGTGGC | CAAGACAACG | ATCCACTGGC | CCACCACGCC | 120 |
| | CAGTAGGAGG | ACTGCCCACT | GGACTGACAT | CGTCGACACA | CCGTTGTGGA | TGCAGAGGTC | 180 |
| | AATTATCAAG | CCCGACAGGA | AGCGCGAGCA | CGTCGAGGCA | ATCGCAAATT | CTGGCAGCAC | 240 |
| | CGACGCCTGG | CCCAACAGGC | TCGACAGCGA | GCCCATGTTG | GTGAGGAACA | TCTCCATCGG | 300 |
| 20 | CGCCAGCGAC | AATAGCAACA | CAAGGGCCAT | GAAGTACGCC | GCTGGGTGCT | GGAAGAAAGTT | 360 |
| | GCGCAGCCGG | CGGCGGATGT | CCTGCGGCAG | CAGCGGCTCG | GTGGGGCTCT | GCATGCCCGC | 420 |
| | GAAGGTCAGT | GTTGCGGCCT | TGACCTTGAG | CATAGTGACG | ATGCTCGTCG | CAAACCCAT | 480 |
| | GCAGAAGCTG | ATCAGCGTAT | ATGCGACAGC | TAGAGTCCTG | AATACACGAG | AAAGGTCAAG | 540 |
| | GTACGGCAGG | CCATTTCCAA | AACCATGGTA | TCTTCAGCAG | CTGCGACCTA | GCACAGAC | |

1666RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCTTGCG | TACTAAGAGT | TAGACTTTAA | TTAATAATAT | TATTTGTAGA | AGATAGAAAC | 60 |
| | CATACTGACT | CACGTCGTAT | TTAACCCATC | TCACGTAACC | TTTTAATTGA | CGAACAGTCA | 120 |
| | AACCCTACTT | AGCTGTTACA | ACCAAGAGGA | TAGGTTGAGT | CGACATCGAG | GTGGCAAACA | 180 |
| 30 | TAACCTACAA | TAGCTACTCT | ATCGTTATAT | TACCCTGTTT | AATTTTGTTA | TCATAATAAC | 240 |
| | ATTTAATTAT | TATTTCAATA | ATTCTCATT | TTGTTCAAGC | TATTTTCATT | TGTATTATTT | 300 |
| | ATTAATTAA | ACATATTTGG | CTTTCGTGGA | TATAATTATT | GTTAATCCTA | CTCATATATC | 360 |
| | TAGTCGTTGA | ACGTTCTTAT | AACTTTTATA | AAAGGATTGT | TATAAGCTTC | GCTGCAGATT | 420 |
| | GTCTTTTATT | ATTATAAAAT | AATATTAGGA | GTTCTTTGCA | ATTAACCCAA | TTTACTCAAT | 480 |
| | ATATTTAAAT | ATTGATAAAT | AAATTTTACA | ATTTAATGGG | ACTATTAATT | AATCCCTAGC | 540 |
| 35 | GTAACCTTTA | TTTCGTTATCA | AATACCATTA | CAATATGTAT | ATTTTGTGTC | ATTATGCCAA | 600 |
| | ACTTACGTTA | TTGTTCTACT | TGTAGGTATT | ACAATTATAG | CACAGTTATA | CCATTATATT | 660 |
| | TATTTAATAT | ATTATCCCTA | TATTATGTTT | TATTAACATA | TAAACTGTA | CAT | |

1666UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCTTATA | AAATGGGCAA | TAGACGTGTT | ATAATATAAT | ATACAAAATT | ATAAATAAAT | 60 |
| | ATTTAATAAA | ATATAAAATT | AATAATTAAA | GTATTATAAT | AATTAATAAA | ATTATTTATT | 120 |
| | AATAAGTATG | GATTTTAAAC | TGAAATTTGT | TAAAATGAAA | TAAGAAATTG | TAGTAATCTA | 180 |
| | TTAATAAGAA | AGTAATGGTG | AATACTCTAA | CTGTTTCGCA | CTAATCACTC | ATCACGCGTT | 240 |
| 45 | GAAACATATA | ATTAAATAAA | GAATATTAAT | TAATTTATTA | ATTATTAATT | ATTATTAATA | 300 |
| | TTATTTAATA | AATATAATAA | ATATTTTAAT | TTAAATTATG | AATTAATGCG | AAGTTGAAAT | 360 |
| | ACAGTTACTG | TAGGGGAACC | TGCAGTGGGC | TTATAAATAT | CTTTAATATT | CCATTTTTAT | 420 |
| | AAAATAAATA | TATTTTTTAA | TATATTTTAT | AATAACTATA | ATTAAATAGT | TAAAATTTAA | 480 |
| | ATTATAATTT | AATAATTTAA | TAACCTATTA | ATTAGAGAGT | TAGGGTACAT | CCCCCCTAAT | 540 |
| | GCTATGCATT | ATGGTTGGTA | CCACTCTAAT | TAATAAACTA | TAATAAAATA | ATACTAATAT | 600 |
| 50 | TTTATATCAA | TTAAATTATA | ATTATTTTAT | ATTAATATTT | TAATATTATT | TAATGAAATA | 660 |
| | TATAAATAAA | GTATTAT | | | | | |

1667RP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCCATCGT | GGTGTGCTTC | ATTACCTGTA | ATTCCATTGA | TATCCTGGCT | ATGCAGTGCT | 60 |
| | GGAAACGCTC | CTCCAGCGCC | TCTATTTTGT | TATTCAGCTC | CAAGTACTCC | GCGAGCTTAA | 120 |
| 5 | AGGTCAACGA | GAGCGACCC | GGATTGCACC | TGACGGCGAT | CTCAAGGACC | TTCTCGTGCT | 180 |
| | CGTTCTCGTC | CACAAACATG | GCGTAGTTGT | ACCATATCTC | CGGCGCAAAG | CACATGTGCT | 240 |
| | GCACAGCCTG | GCGGTGCACG | TATTCACCGC | GCTGGCGCAG | CACGACTTCG | GCGAGGTGGA | 300 |
| | GCTTGTGCTC | CAGCTCCAC | TGGATCCACT | TCGTCCAGAT | CTGCAGCTGG | TACTCATCGT | 360 |
| | ACTGACCGGG | CGCAGGCAGG | TTCTGCTGTG | TCGCCTGGTT | TAGCTTCGTG | GCGAGCGAGC | 420 |
| | GCCGCAAGCC | CTTCGTCAGG | TTCCGACCACT | CCTGGTACAG | CGAGCGCGCA | TTCATGTAGC | 480 |
| 10 | TCGCCGAGAG | CTCTCCGATG | AACTTCCCGG | CCGTCAACTG | GTTGACCTCC | TGCTCCCACT | 540 |
| | GCGTGTATTT | CTCCCAGTAC | CGCTCCAGCG | ACTCCACTGG | CAGGCACAGC | AAGGCGCTTG | 600 |
| | TACAGCTTGC | GCAGAACTCT | GACCCGGCTC | TGCTCTCTCC | ACTTGCTCAC | CGGCTTCCAC | 660 |
| | TGCTCCAGAA | ACTGCAGGTA | GTCTTGCCAG | AACTGCATCG | ACCGCGG | | |

1667UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTAAGGG | ATGGGTGACT | GCTGCCGGTG | CTCACAGCAG | TGGCACGTAG | CTAGTAATGG | 60 |
| | TGCGAAATCG | ATCAAAGAGG | GTGCGTCTGG | CGGTACAGGC | AGAAAGCAGC | CCCGCCGATA | 120 |
| | CAAGTTCCAG | TTCTACAAGC | ACCTGCAGTT | CCAGGGTACG | AGGTACCAGG | TGGTGACTTC | 180 |
| 20 | GCGGCCGTAT | CTGATAGAGC | GGTACGGGGA | GCGCAAGCGG | GCGACGATCA | GGTCGTTTGT | 240 |
| | CAAGTGCATC | CTACGGAAAC | TCAAACGAGA | GTGACACGCG | ATCAGCGACG | AGCGGTTGAC | 300 |
| | GACGCGGGTG | TGCAAGTGGG | AGAAGTCGAA | GCTGTTCTCT | CTGCTGGTGA | CGCTGTCCGA | 360 |
| | GCGGGGCGGG | CCGGAGTACT | GGCTGGACAA | GACGAACGGG | TGCCAGAGCC | GCGCGGGCGG | 420 |
| | AGACGGCGCG | CGGAAGAGCG | ACGAGGTGGA | GGAGGGCGGG | AGCCGGCGGG | GCCAGAGGCT | 480 |
| | CGTCTGCACA | CTGGTGGAGC | AGATCATGCG | CGAGAACATC | ACGGAGGACT | ACGACGAGAG | 540 |
| 25 | CSTGCACGAC | GAGAACTACG | TGTTCTCGTC | GATATGGGCG | AACTTCATGG | AGGGGTTGAT | 600 |
| | AAACCACTAC | CTAGAGAAGG | TCATCATACC | CAAGTCCGAG | CTGAAGGTGT | GCCAGCAGCT | 660 |
| | GTACCAAGCC | GATGATGAAG | ATCATCTCAC | TCTATAACGA | ATACAACGAG | CTCATGGACA | 720 |
| | AGA | | | | | | |

1669RP

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|----|-------------|------------|-------------|-------------|-------------|-------------|-----|
| | GATCAACAGC | ACCTCCACCT | GCGACAGGTC | GAACCTCATCG | TAAAAAGGCA | GCGACGCGAT | 60 |
| | ACCCTGGTGG | GCGGGATGCA | CACCGGCATC | CAGCATGACC | GTCTTGCCCT | TATACTGCAA | 120 |
| | TATATGGCAT | GAGCGTCCAA | CCTCATTTGCT | GCCCCAAGC | CCGAAGAATC | GGAACGAATT | 180 |
| 35 | CGTATCTAAC | TTCTCCTCCG | TCATCCGCAA | TTTGTTTATG | TCTGCCCTGCT | GCGAGGTGCT | 240 |
| | GTGCTCTCTA | CCCAATGCCT | GCGACACTGG | CTACTGAGAC | AAITCCACGT | AGCTGCTGCT | 300 |
| | GCAACTTTTT | TGCAGCTATG | GAAATACCGT | GGTTCCGGTAG | ATTTGATTCT | GTGGAGATGA | 360 |
| | ACGATCAAAAC | GGGAACACTG | GTTATCGGTG | ATGCGTGTGT | TTAGTACCCA | ATCACCCGCA | 420 |
| | GAGACAAGTG | CCACTATTAA | TTGTAGTACT | TACAGGAACA | CCGATCGCAA | GAACCTCTTAA | 480 |
| | CGGCTCCGTT | TACCAACGAT | CAACACTTTT | CTCCTCGAAC | GTTATGCTGT | GCGGCGGTGG | 540 |
| 40 | CGATTGCGAA | TGATTGTTGA | ATTGAACCAG | AGAGCGGAAA | ATTTTCGTTT | TCACGTGACC | 600 |
| | GTATCTTACA | TAAGCTACTG | AACATATATGA | AATACCGACG | TTGCTCGAGG | ACCGCTAGCG | 660 |
| | CAGTGTCTCA | AGCAGTGATC | ATGAGATTGA | GTTGTTCTGA | TGTGTACATT | GAGAGTACTG | 720 |
| | GG | | | | | | |

1669UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAACAAG | TGCAACAGCA | AGGTGCAGTT | GCGCCATGTG | CCCTCGGGGA | TCGTGATTGA | 60 |
| | GTGCCAGGCA | ACCCGCGAGC | GCGAACAGAA | CCGCAAGCTG | GCCCCGCGAG | AGCTAGCCGC | 120 |
| | CGCGCTGGCG | CAGCCCCCGG | GTAGCGCCAG | CGAACGCGAG | CTGGCGTTGC | GCACGTGGGC | 180 |
| 50 | GCGGCAGGGT | AAGCACGCGC | AGGCGCGCAA | GAGCGCGGAG | AAACACGAGC | GCGCCCCGCG | 240 |
| | CGAACGCGAG | GAGCTCGCGC | GCGCCCGCGA | GCGCGGAGAC | GCCGAACCTT | TGCGTACAGT | 300 |
| | GCTCGCGAAG | CCGCCCCGCA | CCTCCTAGTG | CCCCGCGGGG | CCCGGGGGGG | ACGAGGGGGC | 360 |
| | GTCTTTTTTCG | GCAATTCCAA | ATAGACACCC | TAGTCGCCTC | TGCTGCCCGC | GAGCGCAGAG | 420 |
| | CAGGCAGCTA | GCACACCACC | GTCCACGCGC | AGCGCTTTTG | CTGGCGAGTC | GTGCCCGAGT | 480 |
| | CCGCTGGCTC | TGGTGTGCAC | ATGCCGCTCC | GCGGTGGCAC | CGCAGTGCAG | AGCTACCTAC | 540 |
| | GTACGTTTTGC | AGGCTTCGCA | GTACGCCTGA | TACTGGCTCT | GGTGAAACTT | CCCACAAGA | 600 |
| 55 | GTAAATCTTC | ACCAAAGAAC | AAAAAGATAT | GTTAGTGAGG | ATATCTCACA | TTCTGTTACT | 660 |

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1670RP

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|----|------------|-------------|------------|------------|------------|-------------|-----|
| | GATCCGGCAA | GATCGTCGTT | CAGTTGACCG | GCAGATTGAA | CAAGTGCGGT | GTCATCTCTC | 60 |
| | CAAGATTCAA | CGTCAAGATC | AACGACGTCG | AGAAGTGGAC | TGCCAACCTA | TTGCCAGCCA | 120 |
| 5 | GACAGTTCGG | CTACGTCAATC | TTGACCACTT | CCGCCGGCAT | TATGGACCAC | GAGGAGGCC | 180 |
| | ACAGAAAGCA | CGTTGCTGGT | AAGATTTTGG | GTTTTGTCTA | CTAAGCGGCT | GCTATATAGC | 240 |
| | GTATCTAGCT | CTAATGTACG | ATACTCAGTG | TCTATTACGA | CGGCCGCGAG | CTCCACGCGC | 300 |
| | CACATACGAG | GCCAGCCGGC | GACGGCAAGC | GGGAATTCAG | ATGCGTTAAT | TAGCAGTAGA | 360 |
| | TTAGTAGTAT | ATATGTACAA | ACAGCATACA | CATGAACGGC | GTCGCCGATC | ATAATCTTCT | 420 |
| | ACCTCTTCTA | CCACCCCTTCT | TTCTGGTAGA | GTCGGATGGG | ATAGGAGTGA | CGTCCCTCGAT | 480 |
| 10 | ACGGCCGATT | CTCAAGCCGG | ATCTGGCCAA | AGCTCTCAAA | GCAGCCTGAC | CACCTGGACC | 540 |
| | TGGGGTCTTG | GTCTTGGTAC | CACCGGTAGC | TCTGATCTTG | ACGTGCACAG | CAGTGATGCC | 600 |
| | GACCTCCTTA | CACCTGGCAG | CGACGTCTG | AGCAGCCAAC | ATGGCAGCGT | ATGGAGAGGA | 660 |
| | CTCGTCTCTG | TCCGCCCTTGA | ACTTCATACC | ACCGGTA | | | |

1670UP

| | | | | | | | |
|----|------------|-------------|-------------|------------|------------|------------|-----|
| | GATCTATTTT | TGCCGTCCGC | CATTAAAGCAA | GCGGCAAGCA | TCGATCCAAA | TCATGAGAGT | 60 |
| | ACCCTCGGGC | TTTCACTTTT | CAAGCCTTTA | TCAACAAATC | TGGTACACGA | TACATCCATC | 120 |
| | GCGACAGCAC | ATATACCAGA | ACGGGAAAGC | CGACAAGATG | GCACTAGACT | CTGGTAGGTA | 180 |
| 20 | ATCTGAGTTT | GACCATATCC | ACTTCGTAA | TGGTGATAGT | TGATAAAAAG | AAACGATACT | 240 |
| | GAAAAATTTA | ATGTTTACCA | ATCTCATCTC | ATCGCCATAC | TGAAAGAATA | TTGTAGGTCT | 300 |
| | CGCAGTGGAA | CAAGGATCAA | GCCCAGGCTA | AGACAATAAT | GGTTGCAGCG | GAGGCAGTAC | 360 |
| | AGGAACCTAC | CCCAGATGAA | GAAGAACTGG | CCTTGGCTAA | GCTAGTGTTT | GGCGACACAG | 420 |
| | CAGACTTCCA | TGAAGCGCTG | CGAAATGCAG | ACCTTAATTA | TGTTTCTTCA | GATGAAGACG | 480 |
| | TATATGGCCA | GGAGTCTGCC | AGTGATGACG | AAGAAGGGAC | TGAAATTGGT | CACCTGAATG | 540 |
| 25 | ATGACCAATT | GTTTTTTTGTG | GACGAAGGTG | CAGATACCGA | GGGAAGAGCA | GATGGAGAAC | 600 |
| | CGGAGGCCAT | GGAGGTGGAC | CAGGTTAGCG | AGGAAAGCGA | CTCCGGAGAG | GAAAGCGGTA | 660 |
| | GCAGCGCTGC | ATGGTCAGAT | TCCGATGACG | AACACTTAAA | CGTTACAATA | GGG | |

1671RP

| | | | | | | | |
|----|------------|------------|-------------|-------------|------------|------------|-----|
| | GATCGCTTTC | AAACCATCCT | GTAACCTACG | TGAACCACAC | TTTACAAGAC | AACGGCATAT | 60 |
| | CGACAATCAC | AAGACTTCCT | CGAGACATGC | CCGCCACCAA | TCTTCATCGT | GTAAGTACGG | 120 |
| | ACTATAATCC | AAGTGGCCAT | TTGAATTCCG | AGCATGATGC | CACGCTTTCC | AACCTGAGTG | 180 |
| | CGAAAACTGG | AGATGTACAT | CGGCCTTCCA | ATTCTCTTTC | GAGTTTTAAT | GGAGCACAAA | 240 |
| | AAAGGGCTAG | CATCCCAAAT | ATCTTAGGCT | CTGCTCCACT | TAGTAATCAA | TCAAGAACTC | 300 |
| 35 | CAGACAACCG | TTTAACACAT | GGTACATCGA | TCCATGAGAA | CCCGCGGTTA | GAATTAACG | 360 |
| | GTGATCAGTC | TTTACTCTTT | GGCGGTAATA | CAGGGCAGGC | ATCGGGTAAC | TTGGCGGGTG | 420 |
| | TTTCAACGGC | CGAAAACTCC | CGAAGGAGCA | ATTGCGATGA | TCAGAGCCAA | TATAGATTAC | 480 |
| | ATTCCAAACG | TTTCCATTCC | ACTGCCCTTC | CAAACGAACC | TTCTAAGAAC | ACTAGTCCAG | 540 |
| | GTACAACTGT | TGCACCTGCG | AGCGTTGTG | GTACAAACAC | AAGGAACACA | CAACGTGGAC | 600 |
| | CCACGGGAGA | TGTCTCCCAA | GAATCAGTCG | AACAGCCGCA | ATCAGCTTCG | CGCGCATCCG | 660 |
| 40 | ATGAATCTAG | CGCAAGAATT | ATGTCGCCCTA | GTCAATCATAC | GGAGCCAGTA | GTGTCTGTTT | 720 |
| | CGACAATCTC | TTCTAACACA | CGC | | | | |

1671UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCAGGGAT | GCGGAGGACA | TTCCGCGACG | TTATCGGCGA | GCACGACCTA | CGCGTCTGGA | 60 |
| | ACTATGTCAA | GTACGGCAAG | AAAGCTATTA | AGGCCTTCGG | CTTCTCGCCA | GACGCATATA | 120 |
| | TTCAACAGAT | CATCCAGCTA | GCCATCTACA | AGTATGTGGG | CAGACAATTG | CCAACCTACG | 180 |
| | AGGCTGGGTC | GACCAGAAAG | TTCTTCAAGG | GTAGGACCGA | AGCGGGCCGC | GGCGTTTCTC | 240 |
| | CGGCCTCCGC | CAAGTTTGTG | AAGACTTGGC | AGTCGCCGGA | AGCATCTCCA | AGTGAGAAGA | 300 |
| | TTGCTGCTCT | ACGTGAGTCT | GCTAAGAACC | ATTCTGCGCT | GCTAAAGATG | GCGGCGGACG | 360 |
| 50 | GCCAGGGTGT | TGACCGCCAC | TTCTTCCGTA | TGAAGAATAT | GTTGCGTGAT | GGCGAGGAGC | 420 |
| | ATCTGCACT | CTTCCGCGAC | CCGCTGTTCC | AGCACTCCTG | CACGTGGTAT | GTGTCTACCA | 480 |
| | GTCAGCTATC | TTCCGAGTAC | TTCCGAGGAT | ACGGCTGGTC | GCAGGTGAAC | GAAAAATGGCT | 540 |
| | TTGGTCTGGC | GTACATGATC | AACAATGACT | GGTTACACAT | CAACATGTTT | ACMAAGCCTA | 600 |
| | AGAAGTCCGG | CTATAGTGTG | CACGAGCTTT | CACCTACTACT | TGACCGAAGC | AGCAAACGAG | 660 |

A

1672RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTGTAT | TTGTCAAGCC | CATCCAAGCC | CTCCCCCGCA | CCCAAACCCA | CTATGATGGG | 60 |
| | CAAGAAGTGC | TCCAACGTGC | GATGGGCAGC | CTGCAACAGT | TCTCGTCCCT | CCGCGCTCGA | 120 |
| 5 | GAAGAGACGA | AGTAGTCTGC | CGAATTTACA | GGCGTTGGGC | GGCGTGGTTA | GCAGGACGTT | 180 |
| | GGACAGTGCC | CAGTGAAAGG | CAGATGAGCG | CGAGTGGCTT | TTTGGCGATG | CAGATCCGCA | 240 |
| | GAAGAGATCT | CTCAGGTTGT | GCACAGCCAT | GCCAGACGTT | ATTATCAACC | CGCCGAGGTC | 300 |
| | GCGGTACCTG | GACAGGAGGC | GCCCGAGCGC | ATACTGGTCC | CGCAGGTCGT | TTCCCGCCGC | 360 |
| | CAGTGATATT | TGGACCAGCG | GTACCGGGAC | ATCCCAATCG | TCATCCACGC | ACTTCGAAGC | 420 |
| | GGAGAACGCA | ACTTTTAGGG | GGACCCAAAC | GCCATGGTCT | ATGCCGCGTT | CTGTGAGCAC | 480 |
| 10 | AGCGCATAGC | GGGCTGCGTA | TGTGGTTGAT | GGTGTCGCG | ATGTCGGTAA | CTAAAGCCAT | 540 |
| | GCTTGATTTG | CTATGGAAC | CCTCCTCGTA | CATCCGGGTC | GAGAACCCAT | AAAAATCGTA | 600 |
| | TATCAATTGC | TTCTCCAACG | GGT | | | | |

1672UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCCAGAT | TAGATATTAC | TAAACGTTT | CACAGCTTTT | TGATGGCCTA | GTTCTGCTGC | 60 |
| | ACGCTCTATA | TGGTCCATCG | CCCTGTGCAT | GTCCGGATGA | CAGCCGACCG | CGTGCTCCGT | 120 |
| | ATAGAAGCCC | AAGGCATACT | CCGCTTTCCG | TAGCCGGCCT | TCGGAAGCAA | TGGATGCTTT | 180 |
| | ATACGCCCAT | TTGTAAGATT | CTGAAGCGTT | GGGTTCCAGC | ACGCCCTTGA | CACCACTTAG | 240 |
| 20 | GTACCAACCA | CTCAAAGCGA | GCATAGCCAT | GGCATTTCCC | TTTGGTGCTG | CGTTTGACGC | 300 |
| | CTTCAAGTAC | CACACGATGG | ATTTCTCAGG | GCTATACGGC | AAGTGTAATT | CAGCGTACTC | 360 |
| | GTAGCAGTGT | CCCAGCTTCC | ACTGAGCAAG | CGGATAATTA | AATTTAATGG | CACATCTGAT | 420 |
| | GTAAAGGTCT | AGAGCCTTTA | GGGTATCTTG | TGGAACGTGC | TGCAACTTGA | CAGCCTGCTG | 480 |
| | CAGCTGTGGA | TGCAAACAA | CAAATTCATA | GATCTTTGCG | AGTTCGTATA | ACGCCTGGGG | 540 |
| | AGAGACGGTC | TTGTGCTGTG | CAGCAGCCCG | CTCGAACCAT | CGTATAGCAG | AAATGACATC | 600 |
| 25 | CTGTTCAACA | ATAATTTTAC | CTGTGTCATC | ATCCACCAGG | CCATTAGATT | GGGAACATAC | 660 |
| | CCAACCTTATA | CATGCTACTG | CTCTGTCCGG | AAGA | | | |

1673RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCCCAGCT | CTTACGCTCG | CTCAATTGAA | AACCTTTTCT | ACACTAGCTT | TCTTATCAAG | 60 |
| | GAAGGACGGC | TAGTCCCTAGA | AGATGACGAT | GAGGGCTTCC | CGGCCATCCG | ACCCAAGGAA | 120 |
| | CCCCTCCCGC | AGGATCCCGC | CGAAAAGGAA | CTGGAACGGC | AGCGACGGAA | TGACGCGCGC | 180 |
| | CAGAAGCATA | TCATCTTCCA | AATGGACATG | GCCACGTGGA | GGAAGCTTAT | AGACAAGTTC | 240 |
| | CACATCACAG | AGTCATTTTT | ACCGTGATCA | TGTATAAATA | GCGCGCATCT | ACGTATCACC | 300 |
| | CGCTGGCCCG | GCGCTGACCC | AACCAGGCAC | TGCTAGCAGC | TCATCTATCG | GCCACTTCCG | 360 |
| 35 | AATGGTCAGC | CGGGCAACGT | CTGTGCTCAG | GCCGTGTCCC | TCGTAGAGCT | CGATGCCCCG | 420 |
| | CCAGCCGATC | ATCACCGCAT | TGTCTGTACA | TAGATCTGGA | GCTGGATAGT | GAAAGGAGTC | 480 |
| | GAACGGTCTG | AATAGTTTCAG | TCTCGAGTCT | GGCACGACAG | CGCCGGTTGG | CGCATACGCC | 540 |
| | GCCGGAACAC | ACAAACTGTG | CCACATCAGC | AACCTTATCA | GCATTTGAGC | CGCAGCACCA | 600 |
| | GGTTAATCTT | GGTAATCAAA | TGGTCGAAAT | ATGGCTCCCT | GAATCTGAAN | TGCTGCTACC | 660 |
| 40 | CGGCGTTCCG | CCTC | | | | | |

1673UP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCGCTCTA | CCGACGTAAT | GCATGCCTGT | CTTGGTCTTA | AGTTAAAAAC | CACAGCACCC | 60 |
| | AATCGTTTAC | ACCGCAATCT | TAGACCAGGA | GCTAGTGCTT | GCGAGCCCTT | GTCGTTCAAA | 120 |
| 45 | TGGCAGGACT | GTTGTTTGGT | TGTGAACCTC | GCGGACTGAG | GAAAGGGGGC | GGAAGATCTA | 180 |
| | TTTTGACACT | ATTGCGCAACC | GTTTAGATAT | TGAAAGCAGG | GCAACACTAG | TAAAACTCGA | 240 |
| | AATTAGGACA | TTGCTGAACA | GATGTGAGCA | GAGGATTCCG | GATGCGCTTC | GAAATGATGA | 300 |
| | GGGCGCATGC | TGCATACCTT | GGCCGTGCGG | CGTAGTGTAG | ACCGTGACGC | GCAATGCTGA | 360 |
| | AAACAACGGC | GCCGTGGCGT | CGGCATGCAG | GTAGCACAGC | ACCTGCAGCA | GCGCAGGCGT | 420 |
| 50 | GCATCCAAGA | GTAACGCCAC | ATGTCGGGCG | CGTTGCTCCG | TATGTACAAG | TTATGTCATT | 480 |
| | ATTTCTACAG | ATATCATGTT | GAATATTAGC | CCCGATCATG | CTACTCAATG | GTATCGTTTG | 540 |
| | GTCTATCTCG | CTTACGTCAA | GATGCAGGCT | CCGCCCCGGG | ACTACGCGCC | AGGGTGCGCA | 600 |
| | GAGCAGTTTG | GTATAGGAGA | AGCATGATAC | TGCTTTGGAT | GCTGGTCCAG | ATGAACCTGG | 660 |
| | GGCCACACCC | GCTGAAGGCG | CCACCCAGTC | CCTCGTAGCG | AAGTACGACT | AACAAGCTGC | 720 |
| 55 | GGAAGA | | | | | | |

1674RP

| | | | | | | | |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| | GATCTCATTTG | AGGTACACAG | ACACAGCTGG | CAGCGACGCC | CACGCTTGG | TGGACGAGTT | 60 |
| | GGCGAAGCAA | TCATTCGGT | TGTTTGCCAG | CCCTGTCTGT | TGTTTGCTT | TCCTCGTGA | 120 |
| 5 | GCTCTGGAAC | ATAGCAGAAC | TACCAGGGGA | ATAGCCACGT | GATAGTCGTC | GGACCTAAGA | 180 |
| | TATAGTATGA | AAGTGCAGT | GTGCCACAAA | GAAGAAGTCT | TTGTGGTATG | TTGTCCGTTT | 240 |
| | CGTAGAGAAA | GCTTCCGACC | TTATTAATAG | AGAGTGTACC | GTCGTAAACA | GAAGAGGGGT | 300 |
| | ATGTCACCCCT | GTGCAGCATG | TAGATGGACT | TGGGTATCTA | GTCAGCCGTT | GTGCTTGAAG | 360 |
| | GTGGACCAAA | CTAATCCTTA | GTGCATAGTA | TTTATGTGGG | GCGGCTTTG | AACCAGGCTT | 420 |
| | TTGGGATGCT | CGAAGGCGGA | ATAATACTCC | ACGTGACAAT | AATATACGTC | AACATTTAAC | 480 |
| 10 | GGCTAAATTA | TCCCTTGCGA | GGAGAACATC | CCGTAAATTA | CAATTATCAT | TCTATATTAT | 540 |
| | AAACATATTA | TAAAACGTCC | ATCTTGCTAA | TATAAAAAACA | ATCTAGGTCG | GCTTACCAAC | 600 |
| | CATATTACAT | CAGTAGGCAG | CGCGATCTGC | ATCCGTCATG | GCGTGGAGTA | TCCAGTT | |

1674UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATCATC | AACTATATCG | AGAAGGAGTG | TGACCGCGGC | GTGCTATGG | GTAAATACCC | 60 |
| | GTCTACCCTT | GACCGGGAAG | CGGTCCGAAA | GCTGGTGGCA | AAAGATTTGG | AGAACTTCCG | 120 |
| | CGTAACCAAC | AGCCTCACGC | TGAACAGTCT | CTCCCTATAC | TTTCGCAACC | TAACACGGGA | 180 |
| | GCAGCGGGAA | ATATGCATAT | ACAACAACCT | CACCGACTGG | AGCTTGCTAA | TCCTTCCGGA | 240 |
| 20 | AGAGGAGAAA | ACCAAGTACT | GCAAAAGAAA | GCAGGGTTCT | TCGTCAGAA | AACAGTAATT | 300 |
| | GTAACATAT | AATCTGGAGC | TTCTCCAGC | GGTAGAAGGT | CCCAATTTGT | AATGTACTAC | 360 |
| | TACCTGAGCA | CTTGTGTCCG | CCTCATCGCT | CTTAGAAAC | TCGTGTTCAA | GAGCTCGGAT | 420 |
| | GGCATCTGAC | ACAAAGGTTG | CAGACGCAGG | AGAGTATATC | TCCAAAGCCT | TGGGTAACT | 480 |
| | TTCTAACCTA | ATATTTTGCA | AATAAAGCCG | AGTCGCAGTG | TATCACTGCT | CCAGTCAGTA | 540 |
| | GATTCTGACT | TCGTAAAATA | TGTGTTCTAT | GGGTGGAACA | TTTTAAGTCA | TAGTTTGTCT | 600 |
| 25 | TTTTCCCGTG | ATATACTTCC | AAATACATAT | ATCACTGAAG | TTCCATCGGA | AGCACCTCCA | 660 |
| | CAGTACGGCC | TAAGAAGAGC | AGAATAATTG | CTCCA | | | |

1675RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 30 | GATCCGTGCA | ATAAACCGCT | TGAATGCACT | GTGGAAGTAG | TTGCGGGTCT | CGATATCAAA | 60 |
| | GTGACAAAAG | AATATCTGCA | GGTTGTTACG | CAAAATGTCA | AGCACATATC | CACGCACTGG | 120 |
| | ACGCGAGCCC | TTATGCGAGT | AAGTTAGCAC | TTCAAATGCA | CCGAGCTTGT | ACTTGTGGAT | 180 |
| | TCGCAGAAGG | CTTTCCAACG | TCGACAGCAT | GATCAGCTTG | TCTTCGTGGA | ACGGCTCCTC | 240 |
| | CTCTATCCCG | AGCTCCTGGC | CAATTTTGAG | AAGCGGTAGA | AGGAGAGCAG | GGTGCCCTTG | 300 |
| | CATGTTCCCG | AAGATAAACA | GATCGAAGAC | CTTCGGCGGA | ACGGTCCGAA | AGAGCGGCTC | 360 |
| 35 | CAGGCGTAT | ATTTGCACTC | GTTTCGCGCA | GGTGCCCTCA | AGAAGATGCT | GAACCACTTG | 420 |
| | CTGCTCCAC | AACTGCAGCC | ACATCTCCAG | TTTATCCTCT | GTATAGTGTC | GCACATATAT | 480 |
| | ATTGGCCAGC | AAACTCGTCA | CACCTCTTGC | AACCGCCGTC | GCAAGAGAGT | CCGACCACAT | 540 |
| | GTATCCCGAG | GCGGTGCGAA | TGAACCTCCG | CCGGACCTCT | AGAACAATTC | CCAGGTCAAT | 600 |
| | CCGCTCCGAT | AGCACGTCCA | CCATGAAGTA | CACGAACCTC | TTTGAAGGAC | TCAG | |

1675UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GGATCCGCTT | CCACACCGAA | AACGCAGAGG | ACCAGGACCG | TGTCTCGAAT | GTCGTTGGCG | 60 |
| | ACGCCATCAC | GCACGTCAAC | ACGCTCTTTG | GCGACAACGG | CATTACGCCC | TACGTTTATA | 120 |
| 45 | AGAACATCGT | GTTCGTCCAG | CAGTCCGGCC | TGTCCGTGCA | GGCCCTCAGG | TTCTGTCTCA | 180 |
| | ACCACTACAA | CTCGGTGAC | GACACCCCTG | GCTCCACCCC | CGCGCACTCC | CCGGCTGTCT | 240 |
| | CGCCCGTCAT | GACCCCGGTC | AATTCTCTCG | TGGCCATGTC | TCCAAGCACC | GCCGCATCTA | 300 |
| | AAACCCCTC | GGCCCGGACC | GCAACAGCCA | GCTACTTTAG | CAATGGCCGT | TCCACCAGTC | 360 |
| | GCGTCGAGTT | TGTCTGTGTC | ACTGGGACTT | CATCGCCGGT | CCTGGAGCCG | CTGTTCCAGT | 420 |
| | CTATCAATGA | ACTGGCCAAA | AAGGCGGACC | TGCCCTACGG | ATACACTGTC | GCCTACGGCG | 480 |
| | ACGCTATTAC | CACATAACGT | AAAGAGCAGC | TCGAAGGTTT | CAACGAATTA | TTTGGCAATC | 540 |
| 50 | TAGACAAACT | GAACTTCATT | GGCTGCTGAG | CGCCCTGTGT | ACATAGGTTA | TTAATCAATT | 600 |
| | AAATCCTTTT | TCTGGAACCT | TATAGAGCCC | TGCACCTTGC | GCTCCGAGCG | CATATCCTTG | 660 |
| | CTGACTAGTT | GTCAGCGGTA | GCCTTTAATA | AATTACGTAA | TATGTGTTAT | TATCA | |

1676RP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|------------|------------|-----|
| | GATCCCGACA | CCAGCATGCG | CTCGTCTGAAC | GGGTCTGAAGT | CTGTGTCCAG | CACCTGTGCC | 60 |
| | GTGTGCCCCG | GGAACAGAGG | AATTTGGTCT | GGCGCCTTGC | CCACCTCTTC | CACCGGCACT | 120 |
| 5 | ACCGCGAAGC | CCCTCTCGCC | CGACGAATTC | CACGTAACCG | AAATGAACTT | GCCGTTAGTC | 180 |
| | TTGATGAGAT | TGGAATCCCA | AGCATTGATT | GTCACCTTGA | GGTTCTCGTA | GAAGAGTTCC | 240 |
| | TTCTTTGTGT | ATTGTCCGAA | GACGTGTCTA | TACTTGGAAG | CCCGCACAAA | CTTCCCACTG | 300 |
| | CAGTGCCGTT | AGTTTGCCGT | CCGCACAAAG | TCCAGTCTCT | GAGAGTATGA | CATACCTCAT | 360 |
| | CCTTGCAATT | CTTTGGGGTT | TAGCAGCTCT | ATATGCGTGT | ACACCGTAAA | CATCCGTAAC | 420 |
| | TAAATATGTA | ACGTGGAAC | GAAGGGTACT | GGAATCTAAA | GGGGAAAGAA | GTACCCGTTG | 480 |
| 10 | ATGGTGATGG | TACTGTCAAG | ATGGCTAAAG | CGAACCTCTG | GCCTGGTTGG | AACTCAGAAA | 540 |
| | GGTCAACCAGA | CTCTTCTTAT | TCTTGTCTT | | | | |

1676UP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|-------------|-----|
| 15 | GATCGCCGCG | CTCGTGCCCTC | GCCTGTATTA | CTACGCCACG | AAGCAATTGT | ATAACCCACA | 60 |
| | TATTTGTAACG | TTTGTAATAT | CCTCCATGGC | CTCGCCCAAC | CGACACGCCG | CCTTTCCCTG | 120 |
| | ATTCCGGTGC | CGGTGGCCGC | CGCGTTTCAA | CCTCGGCCCA | TGGCTCGCGC | ATTAGCTGCC | 180 |
| | AGTAGCGATG | CAACCCGAAT | GGCGAAGATG | GAGCCGGCAT | TGGTGGGTAC | GAAGAAAGCTT | 240 |
| | TTTACGCGTA | CTGTTTGCTG | GTCTAACGCA | TCCACGCCAC | GACGCTAACC | AGTATGAATA | 300 |
| 20 | CCGACCTCTT | TGCGCAGCTG | GTAATTGTGC | CGATCCTCCG | GTCCCCCATA | GCGTTTTGTG | 360 |
| | TGCTTCTATC | ACGGTATGCA | ATGTTATGAT | GCGTGTGTCC | GCGAACATGT | WCTAACAGGC | 420 |
| | GACAGCGTGC | TGGATACGCC | GTGCCCGCGG | CTGGCAGCCG | CACTGACGGT | GTACACAGTA | 480 |
| | GTGTGAAATG | CGTCCCTAAG | CGCCAACCGG | CGCGCCAAGC | TGGCAGGCCG | TGGACGCCAC | 540 |
| | TGGAGCAGAT | GCCGGACGCG | ACTTGCCT | | | | |

1677RP

| | | | | | | | |
|----|-------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGCAAT | TAGGGCATAT | AAACTGTGGG | TACTGTGTCA | TCACTAGTCG | GCGTATGCAC | 60 |
| | TGGTAGTGCC | AACTATGCGA | ACAAGGGGAT | ATGAAGATGG | CCTGGCAGGG | CTTAATTTTA | 120 |
| | CATAGGCAGA | TTGAGCAATC | TTCTCTCTCA | AGGCCTGCCG | TTAGCTTTTG | TAGGTTCCGT | 180 |
| 30 | AGCGGGGCTA | GTGCCCTCTT | GTTGAACCGG | TTGGCCCTTC | GCTTCCACGA | TTTGTTCAAC | 240 |
| | TCGACTCTCA | TTTTGACGCA | TCTATATATC | TCCTCTGTGC | CGCEACGGAA | ATCCATTCCC | 300 |
| | AGCTGCAATA | TGTCGCCGTC | TTTCAAGGGG | TAGTCTTTTC | ACATAACCGA | TGCCTGTGCA | 360 |
| | AGCCGCATCT | GATTAAAGGAA | CGTGCCGGAC | GAGGACTTGA | CGTCGCGCAC | ATACCAATTG | 420 |
| | CCCTGTCTCAT | CCACCTTAAA | CACCCCGTGT | GTGCGCGACA | CAACCTTGCT | CTTGAATACC | 480 |
| | ACGGGGTGGA | AATGATCCGG | GAGCGAGCCG | ATCGCCTCGC | GAACCCGTTT | TGTGTAACGC | 540 |
| 35 | CCGATAACCA | ACTGCGAGCT | GGGGCCTGCG | GTCCGCACGA | TGGGATCAAA | AAAGAGCCCC | 600 |
| | GGATTATTCTG | TGGTGCAGTG | GTCAATGAAC | GGCGTTAACC | GGAGCGAGAA | GAA | |

1677UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 40 | GATCGTGGCC | TTAAGCCCTT | CGCCGCTGTC | GCCTGCGCAG | CCCTCAATGC | ACTCCGTCCG | 60 |
| | CGTCCGGCTAC | ATCCCAAGAG | ACTTCAGCGC | GCCGCTGCTG | TTTGCGCAGA | CGCTCGGCTT | 120 |
| | CTTTGCGCAG | CGCGGCGTCA | CCGCCAAGCT | CGTGCCTTTC | CCTAGCGGCT | CTGGCCACCT | 180 |
| | GATCCAGGCG | CTCGACGCCG | GCGAGCTCGA | CCTCGCGCTC | GGCCTCACCG | AGGCGTTCTG | 240 |
| | GCGCGGCATC | GCAGACACGC | CAGCCGCGCG | CGCGCCGCGC | TACCAGATTG | CCGGCACCTA | 300 |
| 45 | CGTGCCTCTG | CCACTCAACT | GGGCCGTCTC | CGTCCGCGCC | GCGTCGCCCC | TGGAGCACGT | 360 |
| | GGACCAGCTG | GACGGCGGCC | GCGTCGGCGT | GTCACGCGTC | GGCAGCGGCT | CGTACGTCAT | 420 |
| | GAGCTATGTG | CTCGCCCTGC | AGCGCGGCTT | CCGCCGGCCC | TTTGCCGCGC | ATCCGGTGTG | 480 |
| | CCACACCTTT | GCGGCCCTGC | GCGCCGCGCT | CAACGAACGG | CGCCGCGGAC | GCTTTCTCTG | 540 |
| | GGGAGCACTT | TACCTCCAAG | CGCTACCACG | ACGCGGGCGA | GATCCGCTTG | CTGGGCAACA | 600 |
| | TCCCCACCCC | CTGGCCCTCG | TGGGT | | | | |

1678RP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|-------------|------------|-----|
| | GATCCGCTGT | CGGCATCATC | GGAGACATCG | CCTCCATGTT | CCCCGATGGT | AGGATAAAGC | 60 |
| | AATGTGTACGC | CCAGACTTGG | GTCAACAGAGT | TTATCAAGAA | AACAAGAAAGT | AACCCCAACT | 120 |
| 5 | TTAGTCAGGC | AACTAAGGAT | ACTGCTAGAT | GGGCTAGAGA | ACAACAAAAG | CATCAACTAA | 180 |
| | CCCTATAGCC | TTACACTCCA | GAATAATTTA | TCTTATTACT | CATTTTCTTC | TGCGTTATCT | 240 |
| | CGCTCTCCTC | CTGTTATTCT | ATAATACTTC | CCCTGCATTG | TCTTCATTAT | TGTGTCTGCC | 300 |
| | TGCGACAGA | CCGCTTCGTT | GTCTCTTCTT | TTGTTTCGACC | CTGCACTGAC | CTGGCCATGC | 360 |
| | TGCTCTTTCT | AGTGGTTTGG | TACAGGTTGC | GGGTCTTTTT | ACACAACCTT | TCTACTACGT | 420 |
| | CTTCTATCTA | ATCCCATCTA | CTTTTCTACT | TTCTCTCTCT | ACTTTATCCG | TCGGACCCGC | 480 |
| 10 | TGCTCGTCTT | ACGTGGCAGC | TTGTAGCATC | TATATAATTG | TATATATCGT | GGTGGCAACT | 540 |
| | ATCTACGGCT | GCTATACATC | TGCTGCCCGG | TCTGATCGGC | CGAGCCGTTT | ACCAATGCAG | 600 |
| | TAAAACCACA | TAAACTTTTA | AGAGTTACAA | GCTCAAAAAC | GTT | | |

1678UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|-------------|-----|
| | GATCCGGGTT | CGAGTCCCGG | GAGGGGCTGC | AGCGCACCAG | CGCTTCTTTT | TGGCGCTGGT | 60 |
| | AGTCGAGGAT | TGTTGACTGC | TAAACCCATA | CAACCACATA | TTGCACTGGT | GGCTTGCCCG | 120 |
| | CCTAGGCCGC | CCTGCGGCTC | CCGCGTAGCC | CGCCGGCGGG | ACCCACGCAA | CGAGACCGTG | 180 |
| | CGGGCCCGGG | ACGGCGATCA | CCAGCGGCAG | CCGGTGCAGC | GTAGGCGGGA | CAGCTGAAAA | 240 |
| 20 | GTTACTACAA | TTTGAGGTC | CGCATACTGA | CACAGAGGGT | CTTACACAGC | ACCAGACGAA | 300 |
| | TCAGCAATGG | CTAAGCAATC | TCTAGGTATG | TGACAGAACG | ATTGTTGGCTC | CGAAACATTG | 360 |
| | GGAATGAGCG | TCTCTGGCGC | TGCGATCCGT | GGTAACCTGG | GCATACGGCC | CAGCGCGCAG | 420 |
| | GCGGACCTAG | CATAATCCAG | TGCGTGGAAC | AAGTTGGTGG | CCCGGCACAG | TACTAACATG | 480 |
| | TCTGCAGACG | TTTCTTCCGA | CAGAAGAAAG | GCCAGAAAGG | CGTACTTCAA | CGCGCCATCT | 540 |
| | TCCGAGCGCC | GCGTGATCAT | GTCTGCTCCT | CTATCCAAGG | AGTTGAGAGA | GCAGTACCAAC | 600 |
| 25 | ATCAAGTCTC | TACCAATCAG | AAAGGACAAC | GAGATTATGG | TTGTGCGTGG | CTCCAAGAAG | 660 |
| | GGCCAAGAGG | GCAAGGTTCT | TCTGTCTACA | GATTGAAGTA | CGCTGTCCGC | GTGACACAAG | 720 |
| | G | | | | | | |

1680RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCGTCTG | ACGGTGGTGC | AGTTCTGGAC | AAACGCCGTG | CTCTTTGACG | AGATCGTGCA | 60 |
| | GCCACTGGGC | GAGATCATCG | ACCTCTACAC | CCAGTTCAGC | GGCGTCCACG | AGATAGACCG | 120 |
| | CGCTGTGGCG | AAGACATTTG | AGGAGGCGAG | GGAGGTATTT | TTGTGCGCCG | CGATGATTAA | 180 |
| | CGAGAACAGC | ATACTGATTG | GCCACGGCCT | GGAAAACGAC | CTGAACGTAT | TACGGATTAT | 240 |
| 35 | ACATGATAAA | ATTATTGATA | CAGCTATATT | AATCCCGAAT | GGTAAGTTCA | AGTCTCCCT | 300 |
| | CCGGAATCTA | GCCTTTTACG | AGCTCAGTAG | ACGGATCCAG | ACGGGCGAGC | ACGACAGCTC | 360 |
| | AGAGGACGCG | ATTGCAGCAA | TGGACGTCGT | CAAGCATAAG | CTGGGCATCC | CGCTCGACCG | 420 |
| | CAAGACGTGG | TAGCTCATCG | GCTGCTCCT | CAGCCGCGTG | AGCCTGTCTT | CAAGCTGGTC | 480 |
| | CTGCCTCTCA | ATTAGCGTGT | GTATAAGCTG | CTTAAGGTTT | TGTAACCTCA | TCGCGATCAT | 540 |
| | CCTATCTTCT | GGAAGCTCGA | ACTTGACGTT | CCTGCTGCGG | GTCACGATCT | GGCTCTTGCC | 600 |
| 40 | CACCTTGTTAC | CTCGATGCCT | CCGGAATTTT | GCC | | | |

1680UP

| | | | | | | | |
|--|------------|-------------|------------|------------|-------------|------------|-----|
| | GATCGCGGGC | CGCGGTGGCC | GGCATTTCGG | GAAGCGGCCA | CGGAGCAGAG | GTGGCGCATT | 60 |
| | CGAATCGCAT | ACGTCTTCGC | CACGCCGGAA | AAAAAATTTT | CGGCTATATA | AGGAGAGGCG | 120 |
| | GCCGTCTTGC | TGCAGGCAGT | TTCACCTTCT | CTAAAACCAA | AGAACA TCGA | TTTCTTTAGT | 180 |
| | CACCTCGCTT | CTTACACCGA | AATGCAATTC | TCCACCGTCG | CTTCCATCGC | AGCCGCTGCC | 240 |
| | GCCGTGCGCT | CCGCTCACGC | CAACGTGACC | ACGGCCACCG | CCACCAGAAA | CCAGACCACC | 300 |
| | TTGGTCAACA | TCACCCACTG | TGAGGACAAG | ACCGCATGCA | CTGCGCACGT | CTCTCCAGCT | 360 |
| | TTGGTCTCCA | CCGCCACCGT | CACCATCGAC | AACGTTGTGA | CCTTGAGCGA | GACCTGGTGC | 420 |
| | CCACTATCCA | CCACTGAGGC | TCCTAAGCCA | CCAGTTTCCA | CCGCCAAGCC | ACCTGCTTCC | 480 |
| | TCCAAGCCGA | CTGTTCC TCC | AACGTGAGCC | CAGTCGTCTC | CTCCTTCACT | GGTGGCCGTC | 540 |
| | CCAAGGCCCT | ACCAGCTGCT | GGTGCCTTGT | TCGCGGGCGC | TGCTGCTTTG | TTGTTGTAAG | 600 |
| | TTTAGTTCCG | CCGCGTGAGC | CCTCGTTTCG | TTTAGAGATA | TATAGGAACT | TATGTGACTG | 660 |
| | ATTCTAAGCT | TTTACACCAG | CATGATTTGG | TTCTGCGGCG | CACCGA | | |

1681RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCATTCTA | AACAGATTAA | CCTTCCTCCA | AATTACTTTA | TTTCCTTAAT | CTCCGATAAA | 60 |
| | TGGTTACATT | GCGACAATAA | GGTGCCCGTG | GTGCTTACAG | ATATACATCT | ACCGAGAAAA | 120 |
| 5 | TTTCCGCCAC | ACACTCGTAT | AGAAGAAAGA | AATTTGATTG | AAACTTCTGA | GCTAGATCCG | 180 |
| | ACGTTCACTG | GACTCTTCCC | ATTTAAGGTT | TTCAACAAAT | TCCAAACTCA | TGTGTTTAAT | 240 |
| | GCCTTGATAC | ATACCGATGA | AAATGTATTT | ATTGGAGCTT | GTAAGGGCTC | GGGTAAAACT | 300 |
| | GCAATGGCAG | AATTAGCTTT | ATTGAGTCAC | TGGAGAGATG | GTAAGGGACG | TGCCGTCTAT | 360 |
| | ATATGTCCAT | CTCAGGAGAA | AATTGATTTT | CTGGTGAAGG | ATTGGCGAAA | CAGATTTTTA | 420 |
| | AATGTGGCAG | GTGGAAAGGT | TATTAATAAA | CTCACATTGG | AATTAACATA | CAATCTTCGA | 480 |
| 10 | ACGCTAGCCC | AGTCGCATTT | AATCTTAGCG | ACCCAGAGCA | GTTTGACCTG | CTTTCTCGTC | 540 |
| | GCTGGAAAAG | AGAAAAAAAC | ATCCAGACAT | TAGAGCTGTT | GATTCTAGAT | GATCTTCATA | 600 |
| | TGATCAGTAG | TGACTTGCCT | GGCGCAAGGT | ATGAAAATAT | AATATCCAGA | ATGCTGTTCA | 660 |
| | TTCCGGGTCA | ACTTGAAAAC | GGCCTTGCCT | ATAGTC | | | |

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1681UP

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|----|------------|------------|-------------|------------|------------|------------|-----|
| | GATCAGGAAT | GATCCCTCAA | TTGTCAGGAA | TTATGGTTCC | ATATTGGTTG | AATTTGCCAA | 60 |
| | GATTACTCCT | GATGGTATGG | TANTGTCTTT | CCCCCATAT | TTATATATGG | AATCCATTAT | 120 |
| | TTCAACTTGG | CAGACAATGG | GGATTCCTAGA | CGAGGTTTGG | AAATACAAGC | TCATCCTCGT | 180 |
| 20 | GGAAACACCA | GACGCACAGG | AAACTTCTCT | AGCTTTAGAG | ACTTACCGAA | AGGCCTGCTC | 240 |
| | GAATGGGCGC | GGCGCAATAT | TACTTTCTGT | GGCCCGTGGG | AAGATTCTCG | AGGGAATTGA | 300 |
| | TTTGTACCAC | CATTACGGTA | GGACTGTATT | GATGATTGGA | ATTCCTTTCC | AGTACACTGA | 360 |
| | ATCGCGTATT | CTAAAGGCGA | GGTTAGAGTT | CCTAAGAGAA | AACTATCAGA | TACGGGAAAA | 420 |
| | TGACTTTTTA | TCCTTTGATG | CAATGAGACA | CGCCGCTCAA | TGTTTGGGAA | GAGTCTTGAG | 480 |
| | GGGTAAGGAT | GATTATGGCG | TGATGGTGCT | CGCCGATCGG | CGATCTCAAG | AAAGAAAAAC | 540 |
| 25 | CAACTTCCAA | AATGGATCGC | ACAAGGGCTC | TCTGATGCTG | ACCTGAACCT | TTCTACTGAT | 600 |
| | ATGGCGATAG | CTAATACAAA | ACAATTCCTA | AGGACGATGG | CACAAGCAAC | TGATCCGAA | |

1682RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCGTAAAA | TTTGCTATAC | AATGGTTTGG | GTAGGTCCTT | TAAAAGGTCG | TCAATCTCAT | 60 |
| | AGTCGCTCAC | ATCAAGGGGA | ATGTTTAAAA | AACGCACTCT | CTGATGTGTA | GGCGGAGGAG | 120 |
| | GCCTTGCGTC | TCGCCGGTCC | CTGAAACGTG | AGCGGCGCGA | GGGGCCGTAC | TCTCGCGCCC | 180 |
| | GATACGTGCT | TTCCCCCAGA | CCCATGCGTG | AAGCTAGTCC | ATTACGTAAG | TCTCGACGGC | 240 |
| | GATATTGCTA | TAATAACAAT | GTAATCGTTA | ATACTCAGCG | TCAAGTAACC | TTGCGGTGGG | 300 |
| 35 | TCATGTATCA | CTTACGGTAG | TAGTGCCGGT | TGTCCTTTTG | CCGTTAGTAT | CCGATGAAGT | 360 |
| | TTGGTATCGA | GGAGAAAAAG | ATGTTTCATC | TTTCTCACCA | GTACCCTGGT | TCAAGTGTTT | 420 |
| | GTCAACAGAC | ATTGTCCCTT | CCAAACTATC | CTGTTTGAAG | GGCAAAGGCT | GTGTGTCAAG | 480 |
| | AACGAAGTTT | TCACCATTTT | TCCGGAAGGC | TCGGGACAGC | GATCGAAAGA | AATAGGATAT | 540 |
| | ATACGTACAC | CTTTCCTTAA | ATATCATTTA | AAATATCCTG | GAATTTGAT | ATGTGGCCAT | 600 |
| | ACTGGCTCTT | CAGCTTCCTT | ATCCATGAGA | TAGAAGGAGC | AAACTGTGCG | AAGGTGCCCT | 660 |
| 40 | CCACAGTTAC | TTAAGTTTCC | GTAAGCAACA | AGGAGTCTGT | ATGCGGC | | |

1682UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCCAGTGT | GTACGGCCAG | AGTCGCGCTG | GGGCACCAGC | AGTACCTGCT | CCGTCTCGTT | 60 |
| | GAAGTTCCGA | ACATTCCCGT | CCGCATCAGC | ACCGCGCCTG | AAGTATCTTG | TACCCGCCCT | 120 |
| | GAATCTGCTC | CGGCGCGTGA | TCAGACCCAC | ACTAAGTGGC | GTACTCTGCA | ACACAGTGTC | 180 |
| | TACCACCTTG | ACGTAGCCGT | AGATTAGCGG | CAGAACGAAC | TCGTTCCGCA | GAGCGTTTTC | 240 |
| | CTCGCCAGG | TTTCGCAGCG | GCTCTGTGGC | ATAGTAGTTC | CAGAAGAACC | GCGTGTCTGC | 300 |
| | AGTGCGCCAC | GAGGCCTGGC | CCAACCTTTC | GTTGCGCTGC | ACAGAGTGCG | TCAAGTCATA | 360 |
| 50 | CGTGTAACGA | TAGTACAGCG | TTGCCCTTCG | GAGGTGGTGC | CGCAGTAGCG | CAAGATACTG | 420 |
| | GTTGTCTCTT | GCAGATGGCC | GGATACTGGT | GTTGACCAGC | ACCAAAGAGT | GCGCCGTCAC | 480 |
| | TTTGAAGAAG | GAATGGGCAC | CCAGGTTTTC | CACCACCTCC | ACGCGGTCCG | CCGTTAGCAC | 540 |
| | CACGCGACTA | TTGCGCAAT | GTAATATCCC | GATCAGGCCT | GCGATCTTGC | GAGTTTCTCC | 600 |
| | ATCTTTAGGG | AAATTGCTGG | GGTCTACGAG | TGTACGCCCC | GAATCGTGAT | GCGAGATAGA | 660 |
| | CAACACCGCT | TCACTCTGGG | AAGTATTAGA | TGGCTTGAAA | | | |

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1683RP

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|----|-------------|------------|------------|------------|------------|-------------|-----|
| | GATCTATATC | ACCAATCATC | ATGGTTTTGA | AACATTCCGT | GCTTAAAAAG | GGACACAGCA | 60 |
| | AAC TACAAGC | AGGCAGCAGC | AAGCACTCTG | CAGACTAAGG | GCAGGCCTCA | TCATAAGATG | 120 |
| 5 | CTTAGGGCTG | AGCTAGTAAA | TGCCATTCCG | TGCCAAGGTG | CTCAGTGTGT | CGCTGTGGTT | 180 |
| | GATGGCGTTC | GACAACCTGT | GGTGGTGCGA | AATAATAGGG | ACTTCTTGGT | GTACTCCAGT | 240 |
| | ATGGACGAGA | GAGGCCTGCG | TCTAGTTTCA | ACATATACAG | AATTGCTTGG | CCCGAATTAT | 300 |
| | GGTGTAGAAG | AGCTGCTGTA | CTCCGAACGG | CTGCGGACAA | TATTCGTCCG | CACGACCAAG | 360 |
| | TGCTTACTGC | TACTTTCATT | GAGCAACTTA | CAACATTACG | ACAAGATAGT | TGACAAAACGA | 420 |
| | GGCATTGACC | ATGCCTGGCT | GTTTGAACAT | CCATGTGGGA | AGGCTGAGAC | GTGGATGACG | 480 |
| 10 | GTGCTTGTTT | ACTCGGTCAC | AGGGTCCGAG | AAGATAAAGA | TGCTGACATG | GGTGGGGCGG | 540 |
| | CAGTTCCAAG | CGGTGCATGA | GGTCGCACTA | GGCACGCGAT | CGGAAGTCAT | CCAGCTCAGT | 600 |
| | AAGTGGCGGC | CCGCATGCTG | TGTGGTTGCT | TACCTCCGAC | GACTGTATAC | CA | |

15 1683UP

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|----|-------------|------------|------------|-------------|------------|-------------|-----|
| | GATCTCGTCA | AATTCTGCTC | TAGCATTATC | AAC TTTGTGA | CCACAACTTA | GAATTCCCCC | 60 |
| | ATCATGCATT | ATGTTTATAG | ATGTACAGTT | CTAAAAAATT | CGGTAATATA | ATGAGACCTA | 120 |
| | TCTCTTTTTT | TCATCCTTAT | AGTCACCCAA | AGTTTTAACA | TGTGACATGC | TGCCAGATTT | 180 |
| | ACAGTCATCT | CGGGCTATGA | TTTCTTGCGA | AGACCTGCCA | CAATTATAAT | GTGTAAATAT | 240 |
| 20 | ATTGCTTCCCT | CTGAGGTTGA | AGAGCGAGAA | AAGTTCACTG | CTCCCTAATG | TTAAATTCTT | 300 |
| | CTGGCAAACG | TAGCAGCGGT | TATCTTCATC | TACCACCAAA | AATTCAGATA | TGATCTGGGA | 360 |
| | TAAGCGATAG | GTGCTTCCGA | TGAGGTTGAC | TTTCAAAAAGA | TTGTTCTGTA | TACGCGATTG | 420 |
| | GTTTTTCTTC | ATGGACGCAC | TTTTAATCCT | TCTACTTAGG | AATTCGTTAA | GCGTGTATTAT | 480 |
| | CGGAATATTG | GGCGGCAGTT | TCTCAAACAA | TGTTATCGCA | TCTAGCTTCG | AACCATTCCTC | 540 |
| | TAGCAGAAAC | AGATGAACGT | TTCTCCATCC | GCTAAATTCT | ACCTTCGCAA | GCAGCTTTTC | 600 |
| 25 | AAACAAGTTC | ATGAGAGCTG | CTGTGCCTGC | ATTTTTGTTT | GTGGCATAGA | GCTCATTACA | 660 |
| | ATATAGAGAA | GCTTGGTTAT | AATTCCTTAG | ATCATCAACT | AGGATCCCTA | ACGCTGTT | |

1684RP

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|----|------------|------------|------------|------------|-------------|-------------|-----|
| 30 | GATCTGTACA | CTTCAATATC | GAACGAAGTG | TCACCGGCAT | ATTCTGCAGA | GATTTGAAAA | 60 |
| | AGCCACCAAA | GCAATATGAC | ATCAGGGTAG | AGCTTCGAGC | GAGTAATCTC | CGGTGATTCTG | 120 |
| | TCGATCTCCT | TTAACCAAGC | AGCAAACCGT | GTCTCATGTT | GCTTTTCCCA | GCTAATAATC | 180 |
| | TCATGCACCA | CAGCCATAGA | TTCCAGCATA | TGAAGGTATG | TTGCGCGCGC | CTCATTACAC | 240 |
| | CATTTGATAT | ATATTTTCCC | CACGCCATCG | ATGAACTTCC | CTTTCGTCTG | CAGCTTCCCA | 300 |
| 35 | AAAATAGGTG | TCAAAAGCAG | TTCTTTGTGC | AAGTCAATCA | GCGGATAAAA | GATGTCAAAG | 360 |
| | GCAAGAGAGG | CGAAGTTTTT | GTCCGTGGGC | AGCAACGCCG | GCGAGAATTG | TGCGCCGTAG | 420 |
| | ATTTCTACGG | CAGCATGGGC | CAGGTTTCTT | CTTTTCTCTT | CGAGCACAAAT | AAGGTCAAAT | 480 |
| | ATGTAGCTCT | GGCGCTTTAC | TTCTCTAGGA | TTAATCTCTG | AAAGCTCCTC | GTCCGTCAAT | 540 |
| | TTCCAGTACT | CGGTCCAAAG | TCCCACCGGG | CGGCTGA | | | |

40 1684UP

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|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCCATGAC | GAGCAGCTGG | ACCTCGTCCG | CGCTCTGGGC | CTGGCGCCAG | AGAACAAGGA | 60 |
| | AACGCTGCAG | AACCTCCCGC | TCGCGCGCGT | CAGCGTCACG | TTCAAGGACG | TGGTGACGGA | 120 |
| 45 | CTACTGCGAG | GCGCACGGCC | TGCTGCTCGA | AAAGACGGGC | GACGTCCGCA | CCCTCCGCGT | 180 |
| | CTACCAGCAT | GCACGTACTG | TCCCGGTCTT | CACCGTCACA | CACGTACACC | GCCGCGGGCG | 240 |
| | TGTAGCTCTG | TGCGAGGACG | TGCTTTGGGT | TCAGGAAGGG | ATAGGCTTCA | AACCTACGTA | 300 |
| | CTTATACGAA | CTAGAAACTC | TTCTAAAGAG | CGCTTAGTCG | TCTCATATAT | ACAGGACCTA | 360 |
| | GTA CTCTTGG | CGCACTCAGT | GGCCCTCGTC | GCTTTTCCGC | CTCTCGGCCG | CGGCCTCCGT | 420 |
| | CTCGCGCAGC | GCCTGCTCCT | CGCTCTCCAG | CTGCTCCGCG | TAGTGCTCGG | GGTGCTGCCG | 480 |
| 50 | GAAGCATCCT | GCATCACCTG | GAATTCTCCA | CGCAGTCAAT | CCCCTTAGGC | TGCGCCTCTG | 540 |
| | AGTACACGAA | GCACGCGAAC | GCAGCCTTGA | ACTCCTCGCC | GCACGGCCCG | TGCGGCATGC | 600 |
| | CGCCCAGGCA | TGGGCAGTCC | CAGTTGATCT | CGCCCCTGTC | GGGATTGTAT | GCTCCTGCTG | 660 |
| | CCCTGCGCAG | CCTCACCCGC | GCTAGCTTTG | TCCTCCGCGG | CGCTCGG | | |

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1685RP

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|----|-------------|------------|-------------|------------|------------|-------------|-----|
| | GATCAACTTC | GCCTAATCCC | TTAATCATTG | TCACTGCTAA | CTTGAACCTA | GTCTGTGTGT | 60 |
| | ATGCCTATAG | TGAACGTTTA | ATGTGATGGT | TTTATAGTAA | TCGATGGAAC | TTTATCCGCG | 120 |
| 5 | AAGCCTCAAG | CTGATCATCA | CGTGAGTAAC | CGTCGATATG | CAGAACAGAG | GATACCATAA | 180 |
| | ATTGCTATTAT | GTAATCAATT | AATAGACTTA | CATATAGCTC | AAAGCTGATC | ATTGATGCGT | 240 |
| | CTCAAACCTCT | TTTCATCGTC | TGAACCTTTC | GGATTTTCAC | TTCTGTATC | ATTATACCAT | 300 |
| | GTATAATCCT | CTAGTACGCT | AGTAGTCTAG | TATCTCGGAT | AACCCCCCTA | TATTACATAT | 360 |
| | AATATGAGTA | AAATACAGAA | TGACGTTAGC | GGATAATCTA | AGGCTAAGGT | TGCCTACACT | 420 |
| | AAGTTAACGG | GGGGCTTCTT | ATCTTGACGC | TTGTCTTCT | AATCAATAGA | ATTCTGTTTC | 480 |
| 10 | TTTTTCCACT | ATTTGGTCCC | TGGCAAACCTG | CGAGCCACCC | CGCGTATCCT | TAGCCTCTGA | 540 |
| | GGTGTCTCT | TCGACATCAC | CTTCGTCTCT | CGGGATCTCT | CGGGACGTGG | TTCAACTGTA | 600 |
| | CGCTCGGTGC | ATATTTAGTG | TGCTCAAGGT | TGCTGAAAAT | AGATGCGAGC | ACCTTGTCCTA | 660 |
| | GATATT | | | | | | |

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1686RP

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|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCTCTCC | GAGGTCAAGA | GTGTGTGCAT | GAATTAACCT | CATTTTAGGA | ACAAACTTGT | 60 |
| | CTAGGGTTCC | CGCTACTAAT | TCCTGCTCGA | CTTTGAAATC | CCAAAATTTG | ACAGTCTTGT | 120 |
| | CTGCGGACGC | AGTCACTAGC | CTCTTCCCAC | CACTAGTTAG | GTCTAAAGAC | CAGATTGCAG | 180 |
| 20 | CGGTGTGTGC | CTCTTCAATA | TTTTCTAGCA | TAGTAGAAGA | TGCGAGATCA | AATAGCTGAA | 240 |
| | GTTGGCCCGC | TCTTGTAACC | AGAATAACCA | AGGCGCCACC | TGGTAAAAAC | TTACAGCATA | 300 |
| | AAGCATAGCC | ACAGTCAAGA | TTGCGGATAC | AAGTTTATAGT | CTTGATGTTC | CAGACCTTTA | 360 |
| | GGTTTCCATT | TGAAGCAGTT | GCTAGTAGCT | TATCATCGCT | ACTGATGTCT | GCAGCACGTA | 420 |
| | GATCAGTCTT | ATGGCCCGGC | GATTCGATAC | TATGCAATTT | GATCGCAGTA | GGCTGGAGCG | 480 |
| | GTTCTTCTTT | TTTGTATGGG | ATTGAGTAGT | ACTCTATAGT | GTTGTTTGCA | GTCGTGATCA | 540 |
| 25 | CCAGTTCCAA | TTTAGATGGG | GTACAGACCG | TCCATGAAGA | TGCTTTTAGC | TTAAATAGGG | 600 |
| | ACCTTACGAG | TTGGAAAAGG | ATGCAAAAGT | AAGTTTCGCAT | AC | | |

1687RP

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|----|------------|-------------|------------|------------|------------|------------|-----|
| 30 | GATCAGGACA | GTAGCAGCTT | GACTGAGTAT | CAGCAGGAAA | AGCCTAGCTA | ATTGGCGCGA | 60 |
| | GTACAATTAC | AAGTACCTGT | CTGACTACTT | CTTTTGTGTT | GATGCCATAT | TTTTTAGGAT | 120 |
| | GGCCTGCAAC | GGCCCGGTGG | GGGCGCCATC | CAAATTTATG | GAGTTGAAGA | GCTGTTCAT | 180 |
| | GCCCTTTATC | CCATCTGCAC | CGTCTTTATC | GCCGAACATG | GCATGCAACT | CTTCAAGCAT | 240 |
| | GATATCTTCT | TCCTCGTGCT | CTGATCCGGC | GTTGTCTGCG | TTTGCGCAGT | CTTCGTAGGC | 300 |
| 35 | GCCATTTCTG | TAAATGTTGAA | GCTGTTCTTT | GTTTCATCTT | AGACCCTCCG | TCAGGAAATA | 360 |
| | TTCAAAGAAA | TGCTCTTAC | TAATATCTAC | GCCCTCACTC | TCGAAAAATG | TCCGAGCCTC | 420 |
| | TTTCATCCCA | GCTGAAGACC | CCTGACCAGA | AACATGCTCA | TTGCTACCTT | CATCGTCATC | 480 |
| | TTTAATATCT | GTCAGGAAAG | TCTCCAGCGA | CAGGGCCAAG | GCATCCATAG | ACGCCCTCTT | 540 |
| | GTCCGCGATC | GGTACCTCCG | TAGTTAATTC | AGTCGTAGAG | AACTCCACCG | GGCGCTCTAG | 600 |
| 40 | GTGTTTTGTA | TGTACCAGAG | CGCTTACTAG | GTCACCCCTT | AACTTTCTCT | TGGTTTCAGC | 660 |
| | TGTCGTTAAC | TGGCC | | | | | |

1687UP

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|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCCGTTCC | AGTTTGGCCA | GCGGAAGCTG | GCGGACGAGG | CGGACATCTG | GGCTCATAAC | 60 |
| | GCGTGGGATA | ACGTAGACTG | GGGTGACGAA | CAGATCCGGC | TCGCAAAGGA | GAAGATAGAA | 120 |
| | GAGCAGAAAG | AATACCCGGT | GCAGGAGTTT | GACAAAAGC | TGTATCATAG | CAACCCCGCA | 180 |
| | AGGTACTGGG | ATATATTCTA | TAAAAATAAC | AAAGAAACT | TCTTCAAAGA | CAGGAAAGTG | 240 |
| | TGTCAGATTG | AGTTTCCCTC | TCTATACGAA | GCTACCAAGA | AAGATGCTGG | TTCAGTGACT | 300 |
| | ATCTTCGAGA | TTGGGTGTGG | TGCGGGCAAT | ACCATGTTCC | CGATCTTATC | TGCAAACGAA | 360 |
| 50 | AACGAACACT | TACGCGTTGT | GGGTGCGGAC | TTCTCCCGCA | AGGCCGTGGA | ATTGGTAAAG | 420 |
| | ACGTGCAAA | ACTTTAACC | CGCGAATGCC | CACGCGACGG | TATGGGACTT | AGCCAAACCT | 480 |
| | GATGGTCTTT | TGCCGATGG | TGTCGAGCCG | CATTCCGTTC | ACATCGCAGT | AATGATTTTT | 540 |
| | GTTTTTAGTG | CCTTGGCGCC | CTCACAGTGG | GCCCAGGCTA | TGGATAATTT | GCACAAAGTT | 600 |
| | CTAAAACCAG | GCGGTAAGAT | CCTCTTTAGA | GACTATGGCA | GGTATGACTT | GGCTC | |

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1688RP

| | | | | | | | |
|----|------------|------------|-------------|------------|-------------|------------|-----|
| 5 | GATCTTGTG | AGAACACTCA | ACATCGGCGT | AATTGCAGAG | CCCCCGGTGA | CCATACCGAT | 60 |
| | TTTCTTGTAC | GCATTCTGTC | CATAGCTGAA | CCGTCTTACA | GGACCTTTGA | ATTCCACAGT | 120 |
| | TTGGCTTGGC | TGTAGCCGAG | CAAAACCATTT | GGATACCTTA | CCGTGACAT | AAGATTTGAC | 180 |
| | AATGATATCG | AAATGGCCCT | CGGCAAATTT | GTGGGAGATA | GGCGTGTAGT | AACGCACTTC | 240 |
| | TTCTACACCA | TCCAGCATCA | CCTTCGCAGC | TAAATGAAAG | CCAGTAGGTA | TATCAAGAGT | 300 |
| | TTCCACGCTT | GAACGGAGCT | TGAATCTGTA | TATCGCAGCA | TTTTTGCTTA | GAACGATCCG | 360 |
| | TTCTTCCAAT | TCTAATGGCG | TCCACTCATT | TGGAAGAAAT | GAAGTCCTGC | TTCTGTATGC | 420 |
| 10 | TAGTAGCAGG | CGTGACCTA | CAAACATTGC | CAAAGCTAGA | ATGCCTAGAA | GGTACCATGC | 480 |
| | GTCCCCGCT | GACCAGGCGA | TAACAAGAAC | GCCCAATGTA | AAGATGCCGC | TGGGGATGAA | 540 |
| | GATCCCATGA | ATGGGATCAT | CCAATATCTC | CATACCTCTG | CGTTCCGGTCA | TACTAATATT | 600 |
| | TTGAAAGCTC | GTCTAGCTA | TCTGTCTAGTA | AGGATGAGAA | CGGTAAATAT | ATGCTTCCTC | 660 |
| | CTAGTTCTAT | AAGCACGGAC | TCCTTTGCAA | CTGGTGAAGT | ATCGTCTAAC | GGTCAT | |

1688UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| 20 | GATCAGGCCG | GACGGGTACT | TGCAGGAAGG | CCTCACGAAA | CCCAAGGGGG | GCGAGGAGGG | 60 |
| | CTTCTCGACG | TTMTTCAACG | AGACGGGCTC | GGGCAAGTTC | GTGCCGCGCG | CGGTGTACGT | 120 |
| | GGACTTGGAG | COGAACGTGA | TGCAGCAGGT | CGCGACGGGC | CGGTACCGCG | AGTTTGTCCA | 180 |
| | CCCCGAGCAG | TTGATCAGCG | GAAAGGAGGA | CGCGCGCAAC | AACTACGCGC | GTGGGCACTA | 240 |
| | CACGGTGGGG | CGGAGCTCT | TGGACGATAT | CCTAGACCGC | ATCCGCAAGA | TCTCGGACCA | 300 |
| | GTGCGACGGG | CTCCAGGGCT | TCCTCTTCAC | GCACTCGCTT | GGCGGTGGTA | CGGGCTCCGG | 360 |
| | CTTGGGGTCT | CTGCTTTTGG | AGCAGCTTTG | TATCGACTAC | GGCAAGAAAT | CGAAGTTGGA | 420 |
| | GTTTGCCGTG | TATCCCGCGC | CACAGGTGTC | CACCTCGGTC | GTGGAGCCAT | ACAACACCGT | 480 |
| | GTTGACCACC | CACACCACAT | TGGAGCATGC | CGACTGTACG | TTTCATGGTCG | ACAACGAGGC | 540 |
| 25 | CATCTACGAG | ATGTGCAAGA | AGAACTTGG | CATCTCGAGA | CCTAGCTTTG | CGAAGTTGAA | 600 |
| | CAACTTGATC | GCCCACGTCG | TCTCTCTGGT | GACCGCGTCA | TTGCGTTTTCG | ACGGCTCCTT | 660 |
| | GAACGTGGAC | TTGAAC | | | | | |

1689RP

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|----|------------|-------------|------------|------------|-------------|------------|-----|
| 30 | GATCGTGCAC | AAGTTTGACG | AGCTAAAGCT | AAAGGAGGTG | TTGTTGAGAG | GTATCTACGG | 60 |
| | TTATGGTTTC | GTTGACCCAT | CTGCCATCCA | GCAGCGTGCG | ATCTTGCCCTA | TCATTGAGGG | 120 |
| | CCACGACGTT | TTGGGCGCAGG | CCCAGTCCGG | TACCGGTAAG | ACTGGTACCT | TCTCGATTGC | 180 |
| | TGCGTTGCAG | AGAATCGACG | AGAGCATCAA | GGCCCCACAG | GCGTTGATCC | TAGCTCCTAC | 240 |
| | CAGAGAGTTG | CGGCTACAGA | TCCAGAAGGT | TGTGATGGCG | CTTGCGCTGC | ACATGGACGT | 300 |
| 35 | TAAGTCCAC | GCTTGTATCG | GTGGTACGGA | CCCTCGTGAG | GACGCGGAGG | CCTTGAGAGC | 360 |
| | CGGTGCGCAG | ATTGTCTGTC | GTACCCCGCG | CCGTGTGTTC | GACATGATTG | AGAGACGTWA | 420 |
| | CTTCAAGACT | GACCACATCA | AGATGTTTAT | CCTGGACGAA | GCCGACGAGA | TGTTGTCTCT | 480 |
| | CGGCTTCCAG | GAGCAAATTT | ACAAGATTTT | CACCATGTTG | CCACCAACCA | CCCAGGTCTG | 540 |
| | GCTATTGTCT | GCCACCATGC | CAAAGGAGGT | GTTGGACGTG | ACCGACAAGT | TCATGAACAA | 600 |
| | GCCCGTCCAG | AATCTTGGTC | AAGAAAGGAT | GCCTTGACCT | TGGGAGGGTA | TCCAGCAGTA | 660 |
| 40 | CTATATTAAC | GTCGAGAGCG | AAGAGTACAA | GTACGACTGT | | | |

1689UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCGCGCTG | AACCTCAGCG | AGGCACGGCT | GGTGATCAAG | GAGGCGCTGC | AGCACCGGCG | 60 |
| | GCGGGTGTTT | GGGCAGTGGC | GGGACGGGCT | GGAGGAGGAC | GAGGCGGACG | GGGGAACACA | 120 |
| | ATATGACGCA | GGAGAAGGAG | CTGGCGATGC | GGACAAAGCT | GCTGGAGAAG | ACGACGGGGG | 180 |
| | GACAGAACCA | GGCGCTGAAG | CAGACGATGG | TGTACCTGAC | GAACTTCGCG | CGGTTCCGGG | 240 |
| | ACCAGGAGAC | GGTGACGGCG | GTGACGCGAG | TGCTGGCGTC | GACGGGACTG | CACCCGTTTC | 300 |
| | AGATTGCGCA | GCTGGGGTTC | CTGGCGTGCG | AGGACGCGGA | CGAAGCCAA | ACGCTGGTGC | 360 |
| | CGAGCCTGGG | GAACAAGATC | TCCGACGAGG | ACCTGGAGCG | GATCTTGAAG | GAGCTGTGCA | 420 |
| 50 | ACCTGGAGAC | GCTGTACTAG | ATAGCTACAT | AGACAGGAAG | AACTTGCCGC | CGCCCGGGCG | 480 |
| | CCACCAAGTG | TCCGAGACAG | AGTGCATGAT | GTGCTCGATG | TCCAGCGGCT | CGCGGCGGAA | 540 |
| | GTTGAGAGC | CAGCGGTCG | CGAGACGCGC | GACGTGCGCG | GACGGGCAAG | TGCCGTAGGG | 600 |
| | CACGTGGAAG | TTACCGATCT | CCTCGAAGTG | GTGCACCTCG | TCCGCGCGCA | GGAACAC | |

1690RP

| | | | | | | | |
|----|------------|-------------|------------|------------|------------|------------|-----|
| | GATCTGAAAC | TAATGTATC | CGCGGAAGAA | CATACTAAGA | GCTCATCGTT | ACATCGAGAT | 60 |
| 5 | GAGACAAAGT | ACCTGATGTA | TAAGAGTTTT | ATTGACATAT | GCGCTCGGAG | GCAAACGGCA | 120 |
| | GGCTACCGCC | TGCCCCGTGT | TCCGTCTACA | CATGACAACA | TAATTGTGGC | AATGTCAGGC | 180 |
| | GGCGTGGACT | CTTCAGTATG | TGCTGCTTTA | TACGCTCACT | TCCCAAAAGT | CCGTGGGCTC | 240 |
| | TACATGCAGA | ACTGGTTCGA | GACGTCGGGC | TCAGGGCCTG | TAGAGGGTAA | GGCCGAACCT | 300 |
| | TGTTACGAGC | AAGATTGGAA | GGATATTGAG | AAAGTGGGCG | CGTACCTTAA | TATTCCCGTC | 360 |
| | GAGAGAGTCA | ATTTTCGAACG | GGACTACTGG | CTGGATGTTT | TCGAGCCTAT | GTTACAACGG | 420 |
| 10 | TATCAACAGG | GTTATACTCC | GAACCCAGAT | ATTGGCTGCA | ACAGGTTTGT | AAAGTTTGGG | 480 |
| | CGGTTGCGGG | AGCACCTGGA | CAAGGAGTAT | GGACGCGGCA | ACTACTGGCT | GGTAACAGGC | 540 |
| | CACATATGCG | GAATCCTATC | CCCCCAGACT | CGCAGAGAGA | CCCACCTGCT | GCGGAGCCAT | 600 |
| | TATGCGCCAA | AGGACCAAAG | TTACTACTTA | TCCCAAGTCC | GGCGGGAGGC | CCTCGCGGAC | 660 |
| | CTCTTTAATG | CCCATGGGAT | TTCTAACAAA | ACCGGAAGTC | CGACAATGGG | CCGCAGAA | |

15

1690UP

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|----|------------|------------|------------|------------|------------|-------------|-----|
| | GATCAGAAAC | ATCACCATAT | GGTGTCTGAA | GACCTTACGG | CGACGGTCCA | TACACGCTAC | 60 |
| | CATCTCCAAG | CCGATGATGC | CGGCTATTAT | GGACACCGCC | GACGCCGTGA | TTGCCAGGAT | 120 |
| 20 | TCCGAGCTTC | AGCAGCTGGC | TCGAGGTGAA | CGTCGAGAAC | ATCCCCGGCA | GTCGAGCAC | 180 |
| | GAGGTTCAAC | GTGGTGTGT | TGTAGGACCC | GAATACACAT | GTGTAGTTGC | TGTCCATGCA | 240 |
| | CTGTATCTGA | GACGCGCCCT | CCATCTTGCA | CGTGCGTGCG | CTACACGTCT | AGCTCCCGCT | 300 |
| | CGCACCTATA | CTTTGTATCT | GTTTCGCCCT | TGCTGCGCGC | TAGCCCCCTC | GCGCTTGCCCT | 360 |
| | CTTATCCCTT | CTCGAAGTCG | TCTCCCCTAA | GTTGGATCCC | AGCGACCTCC | TAGTCGAAAA | 420 |
| | CTGCTGTCTA | CGTTCGCCAG | GCACTAGTTG | CCTCCCACTG | CAGGTTATCG | ATAAGTCCTA | 480 |
| | AAATACCACC | AAGCAGGCGT | TGTACTGCTT | CTATACGCCA | ACCTTCGCTT | TTCGTTGGGC | 540 |
| 25 | TGACACACTC | AAGTGACTGC | AAGAAGACTA | CCCTACTCAC | AGATACCGTC | GTCCGTTGTA | 600 |
| | CGCACGCTAA | AAGACAAGTT | AAATCTACGA | CACATATAGT | GCCTCGCAAG | CTCACCGCAT | 660 |
| | CCGGAAGGAA | CAAGCTATTA | GAAACTGAGA | CACCTC | | | |

1691RP

| | | | | | | | |
|----|-------------|------------|-------------|-------------|------------|------------|-----|
| 30 | GATCTTCTTT | GTATTCTCGG | TCTTACCTGC | CCCAGACTCC | CCTGTTACTA | ACACCGACTG | 60 |
| | GTCTGCGCTC | TGTGTCAACA | AGTTGCGGTA | TGCCCTGCTCC | GCTACCGCAA | AGATATGCGG | 120 |
| | CTCGTTGTCT | TCCTTGGGTG | ACCCATGGTA | CAAGTTCACA | TAGTCCTGCG | TGTACACCTT | 180 |
| | GATGTTGCTG | TACGGATTCA | ACGCGACGAG | GAATAGCCCA | GAATAAGTAT | ATATCATATC | 240 |
| | GTCTTTGTAT | CGGTTCTCCA | AGTTGTACAA | CACAGACGCC | TCGTTCAAGT | GGGTCAACTC | 300 |
| 35 | GGACATATCG | TCATCTTTGT | CAAAACGTTGA | CGGATTCACC | GCCGCGGTCT | CCACCTCCAG | 360 |
| | CACCTTCTCGT | TCCTTGCCAT | TCACTCTCAC | AAGACAGACC | TTCTCATCCT | TGTTCTGTTT | 420 |
| | GTPTTTAATT | GTCTTTGTGG | AAACCAACTG | TCCTTTTACA | AACACCTCCT | CAGCATCTGG | 480 |
| | AACCCAAATC | ATTTGACATT | GTTCACCTAT | CGGGACAGAT | GCTCTTGAAC | TTATCTAATA | 540 |
| | TGCAATAACC | AAATTCAACT | TTACTTTAAT | CACCTGCCTG | TTACACACGA | AGCAATGTTG | 600 |
| | GATCTCATAT | TCACACGACC | TACTTTTTTCG | AAACACTTAT | TTGTTTATGT | CGGGCTCGAG | 660 |
| 40 | CATACACGTC | GGTCACGTGA | CAAGCGCATG | TAC | | | |

1691UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| 45 | GATCATTATG | CAACCGAATC | TGGTATCTCA | GAAGATTACC | GTAGGACTGT | GCCTGTCCGA | 60 |
| | TCCGATTACGT | TAGTGGGGTA | GAGAATGAAG | TAAGAAGCAG | CTCTGCGATT | ATTGTCGCTT | 120 |
| | TGCGCCTCAT | GTGAGGTAAA | GCCCTATCCC | GCAGGGTGGC | GGCTTCTGTC | AAGAAAATCT | 180 |
| | GGGCATCAGC | CCCCCGAAAC | GAAATGCGAT | AGTCACCTGT | GCCATGGCGA | CGAGTCATTT | 240 |
| | CCCCATTCGT | ACAGAAATGA | ACGGGCAGAA | TCGCGTAATG | GATTTTCTGT | GGCGTTCGTG | 300 |
| | CCAAAGGTTG | ATCTCCACCT | CGGTGCTGCC | CTGCGGGCGT | GGTTGAGCAG | AGCACCTGGA | 360 |
| | AAAAGAACAG | CACAGAAGGC | CAATGCAGTT | GGCCAATTGA | GGCAATAGCC | GAGCAGGAAC | 420 |
| 50 | AGTCGAAAGT | GGGTGTTCTG | GCGCTGTTGG | ATCTGAAAAA | TGCAGGAAGT | TACAAAAAAC | 480 |
| | AGTGGGGCAA | TACATAGAAA | CCGGCCACCC | GGCGATCGCC | TAATCATCTG | CCATGGAGAC | 540 |
| | GCGGGTCCGG | CGCTCGAACC | AGCGGTGCGA | ACCTTGAGGG | CATGGTGATA | CGGGCCCGTC | 600 |
| | GGCGGGGCAC | TCAAACAGGC | ACGTGTTAAT | CCTGACAAAA | CGCAGCGGGG | TAATTCCTTT | 660 |
| | CCGCAAGCCG | GACGGGTATA | TGAATCGTAC | GATACCAGTT | GTCGA | | |

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1692RP

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|----|-------------|------------|-------------|------------|------------|------------|-----|
| | GATCTAAAATA | TATATAATTT | AATTTATAAA | GATTAATATA | AACTTTTTTA | TTATAATATT | 60 |
| 5 | TAAGTATTAA | ATTATTTAAA | CTATTATTAT | CATTATTTAA | TAAATTAATT | ATTTGATTAT | 120 |
| | TAATACTTAT | TATATAATTA | TTATATAAAT | TACTTAATTC | ATCATTATTA | ATATTTATAT | 180 |
| | AATTATAAAA | ATAATATTTA | ATATGAATAC | TATTTAGTCT | ATGTTCAAAT | TTTAAATTAG | 240 |
| | TTATTAAAAAT | ATTATTAGAT | ATTATTATTT | TCTTTAATAA | ATTATTAAAT | AGATTATCAA | 300 |
| | TAATTAATAT | ATTATTTATT | AATTGTTTTAT | TAAAATAATA | TATTTTATTA | TTATAAAGAT | 360 |
| | TTAATTTTATT | TAAATATTGT | AAATTATTAT | TTTTATTATA | ATATCTATTT | TTATAAATAT | 420 |
| | TATGTTGATT | TATATTATTT | AATCTTTTTA | TAAGAATTAT | TATTAAAAAT | AATTTTAACT | 480 |
| 10 | TTAATTTCTT | ATTATTAATT | TTTATATTAT | TTAATAAATT | ATATTCATTT | TATTTATTTA | 540 |
| | TTTATTTAAT | TAAATTAATT | ATTTAATTAA | TATTTTATCA | TTATTTAATT | AATTAATAAA | 600 |
| | ATATTATAAA | GAATGTAGTT | AAAAATACTT | ATAAAA | | | |

1692UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGATA | CTAGAGCTTA | TTTTACTTCA | GCTACTATAA | TTATTCTTAT | TCCTACTAGT | 60 |
| | ATTAAAGTAT | TTAGTTGATT | ACTAACTATT | TATGGTGGTT | CATTAAGATT | ACTAACACCA | 120 |
| | ATATTATATC | TATTATCATT | TTTATTTTTA | TTTACTGTAG | GTGGTTTAAC | TGGTGTAGTA | 180 |
| | TTAGCTAATC | TATCATTAGA | TGTAGCATT | CATGATACTT | ATTATGTAGT | ACTACATTTT | 240 |
| | CATTATGTAT | TAAGTTTAGG | TGCTGTATTC | TCTATGTTTG | CTGGTTATTA | TTATTGAAGT | 300 |
| 20 | CCTCTTGTTT | TAGGTTTAAA | TTATAATGAA | AAATTATCAC | AAATTCAATT | CTGATTAAAT | 360 |
| | TTCTTAGGTC | TTAATATTAT | TTTCTTCCCT | ATGCATTTCT | TAGGTATTAA | TGGTATACCA | 420 |
| | AGAAGAATTC | CTGATTATCC | TGATCTATTC | CTAGGTTGAA | ATTTAGTATC | TTCATTTGGT | 480 |
| | TCTATAATAA | CTATTATATC | ATTAATGTTA | TTCTTTTATA | TTATTTATGA | TCAATTAATA | 540 |
| | AATGGTTTAA | CTAATAAAGT | TAATAATAAA | TCTATTAAAT | ATATAAAACT | ACCTGATTTT | 600 |
| | ATTGAATCAA | ATAATATTTT | CTTAATGAAT | ACTACTAAAT | CATCATCTAT | TGAGTTTATA | 660 |
| 25 | TTAAATTCAC | CACCTCTTAT | TCATTCATTT | AATACTCCTC | TAATTCAATC | TTAAATAT | |

1694RP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|-------------|-----|
| | GATCCGTTCC | TTGAGAAGCA | CCTAAAGCCT | GAACCTCCTGG | CAGAAGCGAT | CAAGGGAAACC | 60 |
| 5 | TCTTGGGAGG | GTAAAGTTAG | TATTAACCTG | GTAGACGGAT | TCGACCACTC | GTATTACTTC | 120 |
| | GTCAGCACGT | TCGTGCCGGA | ACACGCCAAG | TACCATGCAG | AAAAGTTGGG | TCTAGTTTGA | 180 |
| | GATTTGACGT | TGCGCCTGTT | AATTGGTATA | TACTTACATA | TTAGTCATA | TGACGGCTTC | 240 |
| | AAGTACTCTG | ATTCTGCATT | ATAAGTGCA | CCGAATGCCA | GCCCTCCGCA | GTAATGGCAA | 300 |
| | CGCAAACTGA | ATTTGCCGGT | AGTTCAACCT | TGGCCGGTTG | CAGCACGGGT | ATGCTCCGAG | 360 |
| | CAGACTCAAA | CGTCGCTATT | TGGCGGGTAT | CTACAGCCTC | GTCGGGATCT | CCCTGCCCAA | 420 |
| 10 | GACAGCCACA | GATATCACTC | TCCAGCCCCC | AGGAGTAGAG | TTACCTTTG | TCGGTTAGAG | 480 |
| | CTAGGTTGTG | GTAGTCTCCC | GCAGATACAG | CAATAAACTT | CTGGCCTTGT | TCCAAATTCA | 540 |
| | TCTTCATGAA | TGAGTCTCTG | ACGATATCAC | CATTATTAC | CTTCAGGGTG | TATGTGCTAT | 600 |
| | TCTCGGTACA | TAAAACCACT | GTCATGCAAG | ATGCCTCAAT | CTTCGTAAAC | CGTCCATCAA | 660 |
| | ATGGCAAAAT | CAA | | | | | |

1694UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCCCC | CGACCGAAGA | ACACTCGCTT | CCCTCTGGCG | AGCGCCGAAA | TTCTTGGAAC | 60 |
| | GAGTATCAAC | AAATCCAGTT | AGATAACGAT | CACATGATTG | CAACACTGCG | GGAATTCATT | 120 |
| 20 | AGTTACCAGA | CTGTTTCCCA | ACTCCCAGAG | CCCCAAAATA | TCATCGATTG | GCGTAGGTGT | 180 |
| | GCGAACTTCC | TGCAAAATCT | CTTCACTAAG | CTCGGTGCTA | ACCATTTGGG | GCTTATACCT | 240 |
| | GTCAGTACAG | GCAGCAACCC | GGTGGTTCTC | GCGCAGTTCA | AGGGCAATGC | AGCCGCGCCC | 300 |
| | AAACGCATAC | TATGGTATGG | CCACTACGAT | GTGATATCCG | CGGACCACCC | GTCCGAGTGG | 360 |
| | GACAACGACC | CCTTCACGCT | CACTTGCGAA | AATGGGTATC | TTAAGGGAAG | AGGCGTGTCT | 420 |
| | GATAACAAAG | GCCCCGTGCT | TGCCGCCATC | TTCAGTGTAG | CCGAGCTTTT | CCAGAAAGGA | 480 |
| | TACCTGAACA | ACGACATCAT | CTTCTAGTCT | GAGGGCGAGG | AAGAAAATGG | CTCTCGCGGC | 540 |
| 25 | TTTCAAGGAA | TTTGTCTTGC | CTCCGAAGGG | CTTCTCAATC | AGCGGTGGGA | CTGGATCCTG | 600 |
| | TTTCAAGGAA | CCTACTGGCT | GGATCAGAAG | GTGCCCCGTC | TCAACTATGG | CCTCCGAGGC | 660 |
| | GTCATAAACG | CCGAAA | | | | | |

1695RP

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|----|------------|------------|-------------|------------|-------------|-------------|-----|
| 30 | GATCTGCCCC | CAAAAGATTT | CGGTGCCGCG | TACCCCAAAA | GATTTTCGGT | GCCGGCTACC | 60 |
| | CCATCACGAG | ATGGCACTGG | CTCATTTGGG | AGCTCCTGGG | CATTTGCCTA | TGACAGAGGA | 120 |
| | ATGAGTCAGC | TTTACTCCGC | CACACCATAC | TCCCGGGCCT | TCAACAAGCT | TCTGTTTGCC | 180 |
| | ATCGGCATCG | TGGCCAGTTC | TTACACTGCG | GCCCCACCTG | CATCGGCCGT | CATCGCAGCC | 240 |
| | GTTTTGTAC | AGTTCTCCCT | CCGCAGGTAT | CGTCTCCGCA | CCGGTAACGG | ACGCGACTAC | 300 |
| 35 | GCAGCGGCTG | CCGCACTCAC | GTGCGGGCGG | GTCTTCTCTC | CCACCGTGAT | AGTCACTTTT | 360 |
| | CAGTAGTGTG | TGCTGCCTTG | AATTGGCAGG | GCAATCGTTC | AAGCTGTCTT | GGCGCGGACG | 420 |
| | ACGACCCCAT | CTCCGCAACG | GCGTTGGCGG | AGAAAAGGTG | TTTCGGACCA | GACATCGGCC | 480 |
| | ATCTGCCGCA | GTCAGCAGCT | GCCTTTGGTAC | GGAGCTACCT | GTCTATATTA | TCCCCCTTAAT | 540 |
| | AAACATTGGA | TATGCCTGTT | ATTGTTATGCC | AACGGTTCTC | CCGGTACAAC | GGGGTAGTCC | 600 |
| | CGCCCCCTCC | TGAGCTATCC | TGGCCGATGT | GAAGTGCCCT | TGGTTAAGTG | GTCTGCTTTT | 660 |
| 40 | CCGGGCCACT | TGTAACACT | ATGGCGGATC | ATACAGCCAG | GACTCAAAATA | C | |

1695UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| 45 | GATCTGAAAA | GCAGGAAGTC | GCAGTGGGAG | GCGCCTGCGG | GCACGTCTGT | GCCAGCGAAG | 60 |
| | GGTGCGCCCG | ACGCGCCACC | GGCGTACGAC | ACGGCCGTCG | CACGCGCCGC | CGCGCACGGC | 120 |
| | GCGCAGGCCG | TTGCGCCCCA | GCCCGACTAC | GGCACACAGG | CCGGATACGC | GCCCCAGGGG | 180 |
| | TACGGCGCGC | GGGCGGGGTA | CACGCCCCAG | CCCGGCTACG | GCGCACAGCC | CGGCTACGGC | 240 |
| | ACACAGCCCG | GCTACGGTGC | ACAGCCCGGC | TACGGCGCAC | AGCCCGGCTA | CGGCGCACAG | 300 |
| | CCCGGCTATG | CGCCGCAACC | CGGTTACGGA | TACGCGCCGC | AGCCCGGGCTA | TGGTGCCGCG | 360 |
| | CCCGGGCCGT | ACGCGCAGCA | GCCCGCGCAC | GGTTACCCGG | CCGGCGCAGC | CGCCGCGCCG | 420 |
| 50 | CAGAACGGCG | GCCGCAACAA | CATGATGATG | GGCGGCCCTG | TGGGTGCCGG | CGTGGGGTTG | 480 |
| | ATGGCCGGGT | CACAGCCATG | CACAGCCATG | TATAACCAAG | ACAAGGACGT | GGCCGATGCT | 540 |
| | GCCTACGACC | GCGGCTATGA | AGACGCTTCA | TCGACGGCGA | CTTCTAGGCC | GCACCCCGTC | 600 |
| | ACGTGCCAGA | CCCGTAGAGA | GCTAGGACAA | CTTACGTAAC | GCGTCGACGT | ACGC | |

1696RP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCTTGTTT | TCCATTGACA | TCGAGGCGTT | TGAGAGCAAC | ACATCTGTCT | TCACAGAGGT | 60 |
| | GGGAATCTCG | GTCTACGATC | CCCGCGAGAA | CGAGGACACG | CTCGTGCCCC | ACTTCCGCAC | 120 |
| 5 | GTACCACCTC | TGTCTCGAGG | AGTCTCTCGG | GTTGATAAAC | AAGCGGTTTG | TTCCGAATCA | 180 |
| | CAAAATGCGAG | TTTCTCCATG | GTGAAACCAT | GGTAATGCCG | CTCTCCGAGT | GCGTTGAGTT | 240 |
| | CATTAACGGG | CTTATCGAGT | ACTACCTGTA | CCCACCCACG | GGCGTGGACG | ACAAGTACTC | 300 |
| | GCGGGCAATT | GTGGGTCATG | GTGTCTCTGG | TGATCTGCAA | TGGCTTAGGA | GTCTGCTCAT | 360 |
| | CGACCTGCCC | ACGATCGCTG | GCCCAGGCAA | CTCCCATCCG | CGCGACCATG | TTTCTGTCTT | 420 |
| | AGATACCGCG | CATTTATACC | AGTACTTCTA | TGGTCAGAAG | GGTTCATCCC | TAGGTAAGAG | 480 |
| 10 | CTTAAGATTG | CACGGTGTCC | CACATAGCTA | TCTGCACAAT | GCAGGCAACG | ATGCATATTA | 540 |
| | CACATTACAA | CTGCTCATGA | AGATGGGCGA | TGTGCAGCAA | CGCATCCGGC | ACCAATGGGA | 600 |
| | CGATCTATAT | GCTGTCTTCC | ACACGTTGAA | GCAATGGGAA | GAGTATGAGA | ACTCCACGCC | 660 |
| | CTCCACTCAG | CACGCAGAAT | CCGTCCATAA | CAGCACCCGC | GCTACCGGGA | A | |

1696UP

| | | | | | | | |
|----|------------|------------|------------|-------------|------------|------------|-----|
| | GATCCGTCAG | AAACCCATCG | CCTCGCTCGC | TCGTCTGCTA | ACGCCCAGAA | CGCCACCTGT | 60 |
| | GGTCTTTTCA | CTGCCGCTGG | TTCTTTATTC | CGCCAGGGGG | CCTCGTGGGC | CCGCCAGCGC | 120 |
| | TCGCCAGCGC | GGTGTCTGTC | AOCGCGAGCA | ACAGGACGAG | AACTCTCCGC | TTTCGGCCTC | 180 |
| 20 | GTGAGATTTT | GGATTCACTC | ACGTGATTCA | CGTAGAGGTT | ACCCGGAAG | AGCGGCTTGG | 240 |
| | ATGCCAGTAA | TCACCGCCGT | TATCCCCGGC | CTTCTTAAGC | ATTCACTCTG | AGCCGCTTCT | 300 |
| | CCCCGCTTCC | TTGTTCTCCT | GGAATTTCAA | AGGGCGGGCG | GTATATAGGC | GGCGAGAAAA | 360 |
| | ACACGGTGCC | GAACGTTGTT | GCCGCCAAGC | GTATCTGTGA | AGAACAAGCA | TAATGGTTTC | 420 |
| | CCCTTCGGTT | ATTAAACAGG | TGCAGGCGCT | AAATCCAGCAG | AACCGCGTGT | TCATTGCATC | 480 |
| | CAAGACGTAC | TGTCCGTATT | GCCAGGCGGC | AAAGCGTACG | TTGCTGGAGG | AGAAGCGCGT | 540 |
| | CCCGGCAAGC | GCAGTAAAC | TGTTGGAGCT | TGACACCATG | GGCGAGGAGG | GCGCGGTGAT | 600 |
| 25 | CCAAGCGGCG | TTGCAGGAGC | TGAGCGGGCA | GCGCACCGTG | CCCAACATCT | ACATCAACCG | 660 |
| | GCGCCATGTG | GGTGGCAACA | A | | | | |

1698RP

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|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGGTGC | TTTTCAACGC | GGCGCCCCAG | ACAATTTCCG | GAAGCATACA | TATCGCCATT | 60 |
| | ACATAAACAG | ATTTTATGAC | TAGTACAGTT | AGGTATGTGG | GAGATCACCG | GAATAACTCC | 120 |
| 5 | TATATCTTAT | TTCTGTATTC | TCAGGTAAGT | ATCGCTGTTG | ATGAACGGGC | AACCGTGTGA | 180 |
| | CTTGGGGATT | AACACGTAT | GAAGCCGGAC | GGGGGGGTAG | CACATTGGTA | CTAGGCTGGC | 240 |
| | TGAATTCATA | ATTGGAATAA | GGTGTGCTT | GGCCCGATGG | CTGGTATGTC | CGGTGCTGGG | 300 |
| | TTGAAGGCAT | AAAATTGCTC | GAGCTGTAGC | ATGTTGCCCT | CTCTAGCATC | ATGTTGTATG | 360 |
| | TAACCTCCGC | ATTGGCCAGA | ACCTCGCGCA | ATGATGCAAG | ATCTTCCTTC | TTCTGCGCAT | 420 |
| | ATTTACCGAT | GAGTTTCGTG | ACATGTGGTC | TAAGCGGTGT | GACGGTAGAG | TAAAGTTCTG | 480 |
| 10 | ATATCTCGTC | TTCTGTGTGC | ACATCCACAT | TCTGGGAGAC | CCTTAGTTTC | TGGAGCAAGT | 540 |
| | TCTCGACATT | GGCGGCTTGC | GCAAAGACAG | CATGCTCCTG | AGCAGCCTCC | TTAGCTACCT | 600 |
| | CCTCTGCAGT | TGGCTCAGGG | CATACGCCGA | CATAATTAC | TGGGAAAAAT | ACCAACCTTG | 660 |
| | CCGCGCA | | | | | | |

1698UP

| | | | | | | | |
|----|-------------|------------|------------|------------|------------|------------|-----|
| | GATCAGCAAG | CTGGCCGCGC | CAGGTGTGCA | TCTGGGGCAG | TCTACGTCGT | TGTGGCGCTC | 60 |
| | CTCCACTCAA | CCATACATCT | ACGGCTCTTA | CAAGGGCATC | CACATCATTG | ATCTAAACCA | 120 |
| | GACGCTGTTT | CACCTGAAGA | GAGCTGCGAA | GGTCGTTGAG | GGTGTTCGCG | AGAATGGTGG | 180 |
| 20 | CCTGATCTTG | TTTTTGGGTA | CCAGAGAAGG | GCAGAAACCA | CCTTTACGGC | GGGCTGCAGA | 240 |
| | GAGGGTGGT | GGCTGTTATG | TCCCTCGAA | ATGGATACCG | GGGACCTTGA | CAAACCCAAT | 300 |
| | TGAAATATCC | ACTGTCTGGG | GCAGGCATGA | AGTTGACTTC | GAGGGCAATC | CAACTGGCAG | 360 |
| | GGAAATTGACA | GAAGAAGAGA | ACATCCGCAT | CATAAAGCCG | GACTTAATTA | TTGTTTGA | 420 |
| | CCCAACAGAA | AACATGAACG | CGTTGAGAGA | GGCTATGCAG | GCTAGAGTGC | CACCTATTGG | 480 |
| | GATCATTGAC | ACCGACTCAG | AGCCTTCAAT | GGTCACATAC | CCGGTCCCTG | GTAACSAACG | 540 |
| 25 | ATTGCTACG | TTCTGTAAGT | TTACTTGTAA | AC | | | |

1699RP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTGCGTG | TATATTTGGA | TGTATATGGA | CTTCACACTT | TCGGAAGCAA | TGGAACTCGA | 60 |
| 30 | AAGCTGGTTG | ACCCTCTGCG | TGTATTTCTG | TAGTCTTTCT | GAAACGACGG | TAAGAAAATT | 120 |
| | AACCTTGAGC | GGCGATAGGG | AAGATGCAAC | TTTAAATTTT | TCTACTTGGT | TACTCAAATA | 180 |
| | CTGATATAAT | AATGCAGCCT | CAAATATGCT | GTGGAAAACA | CCACTTTCGC | CGTTCGGAAC | 240 |
| | ATTGGGTGGG | ATTTGATATA | CCTGATTGGA | GATCGGGAAC | AAACTCGACG | TAGTAGCCAG | 300 |
| | TAACGTGTAG | GAAATATACT | TTAAAACGTC | GGCCTCGGGC | ACCATGTTGC | TGTAGTATGG | 360 |
| | GTTAGACAGA | TATGCCAATG | GAGTATCGTG | CTGCTGCGGC | CGCTTGGGGA | CCGGGCCGCG | 420 |
| 35 | GTAGGCAGAG | GTTACCGCCG | ACCGGCGCTC | TGAAAGCCGC | TCCACATTCT | CGAACGACTC | 480 |
| | TGCATAGACA | CTAACCGCCC | TGCACGGCGT | CATCAGCGAG | TTGTGCCGTT | GCAGCGTGCG | 540 |
| | GTTGTAAGA | TATCCAGACG | CGGTGCGCCT | GTGTCGGAAG | GGCGTGCTCT | CCTGCGGCAC | 600 |
| | GCTGTTACAG | ACCGTCAGGT | ACTTCAGCAC | CTGCTCCTTG | CTACCGAAAC | TCTCCAGCAC | 660 |
| | TTTC | | | | | | |

1699UP

| | | | | | | | |
|----|------------|------------|------------|------------|------------|------------|-----|
| | GATCTCCACC | GGGTCCAGCA | CCACGATCCG | GTCACCGTCC | CACCGCGTCA | TCGCCACTGT | 60 |
| 40 | CCGCGCGACG | CTTTCGAAAA | CCGCCCCGTC | CTCCGCGCTC | GCAGCCCCCT | CCCCGCTGTC | 120 |
| | GTGCGTCCGG | TGCTCGGCCT | CCCGCGACCG | CAGCGTCGCC | ACCACCGGCT | CTATATTAC | 180 |
| 45 | GGCCGCGGGC | TTGAGCGTGT | CGCGCTTGAT | GCCAGGGCTG | GTGGGTTTCT | CTCCACCAC | 240 |
| | CTCCAGGCTC | TTGATAAACG | TGCTCTTAAT | CACCTTAAAG | CTCGCAGTAT | GGCCCTTGCG | 300 |
| | CCCACATAGT | AGCGTCAGCG | TATGGTTTCC | CGAATCGTAC | CGGTATATCT | TGCCCTGTGT | 360 |
| | TACACGTCG | AGGACGTTGG | TCACCCGCAC | CTTGAATCCA | AGGATATGTT | CCAAGTTGAT | 420 |
| | GCTCATTCTG | CTCACTTCCA | AGCCACACA | GCTATCCTGG | CCACCTTAGA | ATGCCACGCC | 480 |
| | TGCTCCCCGT | CCACTGGCTG | ACTCCCAATC | GTTCACTTTG | CGGTGTGGGT | ATTTTTTTGA | 540 |
| 50 | AGTGGCGCTC | TAACGATGAA | GTAGGATTTT | CTATGTATTA | CTATGTGCGA | CAAAGGTTAG | 600 |
| | TTCCAATAGT | GCTTGCACCT | ATCAGGTGCT | GTGGAATTCC | AA | | |

1700RP

| | | | | | | | |
|----|------------|-------------|------------|-------------|------------|------------|-----|
| | ATCAGCAAC | CGCAGCGGAT | GAGGGAGTCC | GCTCAGGCAC | GGTCTTGTTT | TCAGCGCTTG | 60 |
| | CTTTGCTTTT | CTCCTTTATG | CGTGTACTA | CTTCTGTGAT | GTGCTCGGCA | TCCAGGCCCC | 120 |
| 5 | TTTTCTTAG | CCTGCTTCGT | AACCTGCGCA | GGCGGCGGTT | GCTACGAACA | CGCAACTTGG | 180 |
| | TTCTTGATC | AGCAAGCTGC | GCTCGGTGTT | TGCGCAGCCG | TTGGCATGCT | CGCGGATCCT | 240 |
| | CGGTTCAAT | ATACCAGAAAT | GCATCATGCT | TCGCTGGCTC | TATATTGACC | TGGTGGCCAT | 300 |
| | ATATGAAAAG | GCGGTCCTTG | AAGTTTTGTA | AAAACTCGTC | TGCCTGAGAT | GGCGTAGCGA | 360 |
| | ACCCAAGGAA | GCATTTATTG | CGGCATTTAC | GAGGCCCTGGA | AACACTAACT | ACCCCGTACT | 420 |
| | TCATCATAC | CAGTGGGAAG | GGCACGTCTG | CGGAAGGAAG | CGGCTCTGGC | AACGTTTTCT | 480 |
| 10 | CCGCCGATAG | AGCATATGGG | TTATCCTTGT | TGATGGACTT | CAACAGTTGT | CGAGCATATT | 540 |
| | CTATCCTGGA | GGCATTTGAC | GCTGGCAAAT | TTGACAGGTA | GACACTGGAT | GGCGGGGTTA | 600 |
| | STATCGAATC | GACAGCAGTA | TAGC | | | | |

1700UP

| | | | | | | | |
|----|------------|------------|------------|------------|-------------|------------|-----|
| | GATCACTGGG | CCTGGAGGGG | CGCGCCTTTT | TGCGGCTGTT | GTAAGACAGC | ATGCCGCGGC | 60 |
| | GGACCTTGTC | ATAGAAGTGT | TTAGACTGTA | GGGTTCCTAT | CGAATGGGAG | CGGCGGTAGC | 120 |
| | TGTGACTTTT | CATGATAATG | GGGGTGCAAA | GCTTGAGGTG | GTCGTCTGTAC | GGGGAGGAAA | 180 |
| | TGAGGTTGCG | GGCGAGACGG | AGGTCGTCCG | CGCGCGCGAG | CGACGAGCCG | CCGGATGGCC | 240 |
| 20 | ACTTCCAGGA | CTTGCCTGAC | GACGGCGCGT | GGCGCGAGGA | GTAGGAGCGG | ATGGGGAAGT | 300 |
| | CGCCGCCAAG | CTGCGAGCCG | CGGAGCCACG | ACGTGAGCCG | CTTCAANAAA | CGGCGACGGC | 360 |
| | GGTTGGCGGG | CTGGAGCTGG | CCGGCGACAA | ACGCAGAGCC | GCTGTCTGGCG | AGACCGGTGG | 420 |
| | GCGCGCCTGC | GCTGCTGGTA | AGCCCACTGG | CGGACTCAGG | CAAGCCGGAC | ATGCCCGGGA | 480 |
| | AGTAGCGCGC | GCTGTGGGCG | CTGAGCTTCG | GAAACATCTT | GGAGAAGAAG | CCCGGCTCCG | 540 |
| | TGGAGCGCAA | CACCGCGTCC | GCCTTGGAGA | TGTGCTCCTG | CGTGGAGTGC | GCCAACTGCT | 600 |
| | CCA | | | | | | |

Annex to the description

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

- (A) NAME: Novartis AG
- (B) STREET: Schwarzwaldallee 215
- (C) CITY: Basel
- (E) COUNTRY: Switzerland
- (F) ZIP: 4058
- (G) TELEPHONE: +41 61 324 11 11
- (H) TELEFAX: +41 61 322 75 32

(ii) TITLE OF INVENTION: GENOMIC DNA SEQUENCES OF ASHBYA GOSSEYII
AND USES THEREOF

(iii) NUMBER OF SEQUENCES: 1152

(iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(v) CURRENT APPLICATION DATA:

- (A) APPLICATION NUMBER: EP 978 110 20.3
- (B) FILING DATE: 24-DEC-1997

(vi) PRIOR APPLICATION DATA:

- (A) APPLICATION NUMBER: CH 0016/97
- (B) FILING DATE: 31-DEC-1996

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

TTTACTAGA TATTTTATAT CCAAGAAGCA ATAGATCAAA ATGGCTCGG TAAAGAGAAT 60

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

CTGGAGCTCC ACCGCGGTGG CGGCCCTCT AGAAGTAGTG CGCCAACGTT GCGAGATATA 60

5

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1281 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

10

(ii) MOLECULE TYPE: cDNA

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: AgLEU2

15

(ix) FEATURE:

- (A) NAME/KEY: CDS
 (B) LOCATION: 1..1116

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

ATG GCT GCG GTA AAG AGA ATT GTG GTG CTT CCG GGC GAC CAC ATC GGC 48
 Met Ala Ala Val Lys Arg Ile Val Val Leu Pro Gly Asp His Ile Gly
 1 5 10 15

25

CGC GAG GTC GTG GAG GAG GCG GTG AAG GTG CTT GGC GCC GTG GAG CAG 96
 Arg Glu Val Val Glu Glu Ala Val Lys Val Leu Gly Ala Val Glu Gln
 20 25 30

30

AGC CTG TCG GAC GTG CAC TTT GAC TTC CAG TAC CAC CTG GTC GGC GGC 144
 Ser Leu Ser Asp Val His Phe Asp Phe Gln Tyr His Leu Val Gly Gly
 35 40 45

35

GCG GCC ATC GAC GCC ACG GGG TCG GCG CTG CCG GAC GAG GCG CTG GGC 192
 Ala Ala Ile Asp Ala Thr Gly Ser Ala Leu Pro Asp Glu Ala Leu Gly
 50 55 60

40

GCG GCG AAG GAG GCG GAC GCG GTA CTG CTG GCG GCA GTT GGC GGA CCG 240
 Ala Ala Lys Glu Ala Asp Ala Val Leu Leu Gly Ala Val Gly Gly Pro
 65 70 75 80

AAG TGG CAG GGC GGC GCG GTC AGG CCG GAG CAG GGC CTG CTG AAA CTG 288
 Lys Trp Gln Gly Gly Ala Val Arg Pro Glu Gln Gly Leu Leu Lys Leu
 85 90 95

45

AGA CAG GAG TTG GGC GTG TAC GCG AAC CTG CGT CCC TGC AAC TTT GCG 336
 Arg Gln Glu Leu Gly Val Tyr Ala Asn Leu Arg Pro Cys Asn Phe Ala
 100 105 110

GCG GAC TCG CTG CTC GAG CTG TCG CCG CTG CCG CCC GAG ATT GGC CCG 384
 Ala Asp Ser Leu Leu Glu Leu Ser Pro Leu Arg Pro Glu Ile Ala Arg
 115 120 125

50

GAT ACC GAT ATT ATG GTG GTG CCG GAG CTG CTG GGC GGC AGC TAC TTC 432
 Asp Thr Asp Ile Met Val Val Arg Glu Leu Leu Gly Gly Ser Tyr Phe
 130 135 140

55

GGC GAG CCG CAC GAG GAC GAG GGC GAC GGA GTC GCG TCG GAC ACC GAC 480
 Gly Glu Arg His Glu Asp Glu Gly Asp Gly Val Ala Trp Asp Thr Asp

EP 0 866 129 A2

| | | | | | |
|----|---|------|-----|-----|--|
| | 145 | 150 | 155 | 160 | |
| 5 | AAG TAC ACC GTG AAG GAG GTG CAG CCG ATC GCG CCG ATG GCG GCG TTC Lys Tyr Thr Val Lys Glu Val Gln Arg Ile Ala Arg Met Ala Gly Phe 165 170 175 | 528 | | | |
| | CTG GCT CTG CAG CAC GAC CCG CCG CTA CCT GTG TGG TCG CTG GAC AAG Leu Ala Leu Gln His Asp Pro Pro Leu Pro Val Trp Ser Leu Asp Lys 180 185 190 | 576 | | | |
| 10 | GCG AAC GTC CTG GGC AGC TCC CCG CTG TGG CCG AAG ACC GTG GAG GAA Ala Asn Val Leu Ala Ser Ser Arg Leu Trp Arg Lys Thr Val Glu Glu 195 200 205 | 624 | | | |
| 15 | ACC TTC CAG AGT GAG TTC CCA AAC GTG CAA TTG CAA CAC CAG TTG ATA Thr Phe Gln Ser Glu Phe Pro Asn Val Gln Leu Gln His Gln Leu Ile 210 215 220 | 672 | | | |
| | GAT TCA GCT GCA ATG AIT TTG GTC AAG AAC CCG CCG GCG TTC AAC GCG Asp Ser Ala Ala Met Ile Leu Val Lys Asn Pro Arg Ala Phe Asn Gly 225 230 235 240 | 720 | | | |
| 20 | GTC GTG GTG ACC AGC AAC ATG TTC GCG GAC ATT ATC TCT GAC GAA GCG Val Val Val Thr Ser Asn Met Phe Gly Asp Ile Ile Ser Asp Glu Ala 245 250 255 | 768 | | | |
| 25 | TCG GTG ATC CCA GCG TCC CTA GCG TTG CTG CCA TCG GCG TCG CTC GCG Ser Val Ile Pro Gly Ser Leu Gly Leu Leu Pro Ser Ala Ser Leu Ala 260 265 270 | 816 | | | |
| | TCT TTG CCG GAT AGC AAG AGC GCC TTT GCG CTC TAC GAG CCG TGC CAC Ser Leu Pro Asp Ser Lys Ser Ser Phe Gly Leu Tyr Glu Pro Cys His 275 280 285 | 864 | | | |
| 30 | GCG TCT GCG CCC GAT CTG CCC GCC GCG AAG GCG AAC CCG ATC GGA TGC Gly Ser Ala Pro Asp Leu Pro Ala Gly Lys Ala Asn Pro Ile Gly Cys 290 295 300 | 912 | | | |
| 35 | ATC CTC TCT GCT GCC ATG ATG CTG AAG TTG TCG TTG AAC ATG GTT GCT Ile Leu Ser Ala Ala Met Met Leu Lys Leu Ser Leu Asn Met Val Ala 305 310 315 320 | 960 | | | |
| | GCC GCG GAG GCG GTC GAG CAG GCA GTG CAG GAG GTG TTG GAC TCG GGA Ala Gly Glu Ala Val Glu Gln Ala Val Gln Glu Val Leu Asp Ser Gly 325 330 335 | 1008 | | | |
| 40 | GTC AGA ACG GGC GAC CTG CTC GCG TCG AGC TCC ACT TCG GAG GTT CCG Val Arg Thr Gly Asp Leu Leu Gly Ser Ser Thr Ser Glu Val Gly 340 345 350 | 1056 | | | |
| 45 | GAC GCC AIT GCG CTT GCA GTT AAG GAA GCC TTG CCG AGG CAA TCC GCA Asp Ala Ile Ala Leu Ala Val Lys Glu Ala Leu Arg Arg Gln Ser Ala 355 360 365 | 1104 | | | |
| | GCT GGT CTG AGC TAGCCTCGAG GACCCCTCTC TTAGACTAT TCTACTCTTA Ala Gly Leu Ser 370 | 1156 | | | |
| 50 | TGCACGTAAA AAATCTAGG AAATATGTAT TAACTAGGAG TAAAATAACC GGCTAGTGGC | 1216 | | | |
| | ATTATATAG CCGTCTGTTT ACATCTACAT CACACATTTC GAGTGTATAT CTGCAACGT | 1276 | | | |
| 55 | TGGCG | 1281 | | | |

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 372 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Met Ala Ala Val Lys Arg Ile Val Val Leu Pro Gly Asp His Ile Gly
 1 5 10 15
 Arg Glu Val Val Glu Glu Ala Val Lys Val Leu Gly Ala Val Glu Gln
 20 25 30
 Ser Leu Ser Asp Val His Phe Asp Phe Gln Tyr His Leu Val Gly Gly
 35 40 45
 Ala Ala Ile Asp Ala Thr Gly Ser Ala Leu Pro Asp Glu Ala Leu Gly
 50 55 60
 Ala Ala Lys Glu Ala Asp Ala Val Leu Leu Gly Ala Val Gly Gly Pro
 65 70 75 80
 Lys Trp Gln Gly Gly Ala Val Arg Pro Glu Gln Gly Leu Leu Lys Leu
 85 90 95
 Arg Gln Glu Leu Gly Val Tyr Ala Asn Leu Arg Pro Cys Asn Phe Ala
 100 105 110
 Ala Asp Ser Leu Leu Glu Leu Ser Pro Leu Arg Pro Glu Ile Ala Arg
 115 120 125
 Asp Thr Asp Ile Met Val Val Arg Glu Leu Leu Gly Gly Ser Tyr Phe
 130 135 140
 Gly Glu Arg His Glu Asp Glu Gly Asp Gly Val Ala Trp Asp Thr Asp
 145 150 155 160
 Lys Tyr Thr Val Lys Glu Val Gln Arg Ile Ala Arg Met Ala Gly Phe
 165 170 175
 Leu Ala Leu Gln His Asp Pro Pro Leu Pro Val Trp Ser Leu Asp Lys
 180 185 190
 Ala Asn Val Leu Ala Ser Ser Arg Leu Trp Arg Lys Thr Val Glu Glu
 195 200 205
 Thr Phe Gln Ser Glu Phe Pro Asn Val Gln Leu Gln His Gln Leu Ile
 210 215 220
 Asp Ser Ala Ala Met Ile Leu Val Lys Asn Pro Arg Ala Phe Asn Gly
 225 230 235 240
 Val Val Val Thr Ser Asn Met Phe Gly Asp Ile Ile Ser Asp Glu Ala
 245 250 255
 Ser Val Ile Pro Gly Ser Leu Gly Leu Leu Pro Ser Ala Ser Leu Ala
 260 265 270
 Ser Leu Pro Asp Ser Lys Ser Ala Phe Gly Leu Tyr Glu Pro Cys His
 275 280 285

Gly Ser Ala Pro Asp Leu Pro Ala Gly Lys Ala Asn Pro Ile Gly Cys
290 295 300

Ile Leu Ser Ala Ala Met Met Leu Lys Leu Ser Leu Asn Met Val Ala
305 310 315 320

Ala Gly Glu Ala Val Glu Gln Ala Val Gln Glu Val Leu Asp Ser Gly
325 330 335

Val Arg Thr Gly Asp Leu Leu Gly Ser Ser Ser Thr Ser Glu Val Gly
340 345 350

Asp Ala Ile Ala Leu Ala Val Lys Glu Ala Leu Arg Arg Gln Ser Ala
355 360 365

Ala Gly Leu Ser
370

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

CATGATTACG CCAAGCGCGC

20

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

CCAAGCACAT TTCACCTGCG

20

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4985 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1489

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

| | | |
|----|---|------|
| 5 | GATCGTAACA TTGCCAATA GCTTGTITAG CTGTCATCG TTTCTGATGG CTAGCTGTAG | 60 |
| | ATGCTTTGGG ATGATTCTGG TCTTCTTGTG GTCTCTGGCG GCGTTACCGG CCAACTCTAG | 120 |
| 10 | GATTTCCGGG GCCAAGTATT CTAGCACAGC GGTTAGGTAC ACAGGCGCGC CCGACCCGAT | 180 |
| | TCTCTGTGCG TAGTTGCCCT TTCTGAGCAA TCTGTGSACT CTACCGACAG GGAAAGTCAA | 240 |
| | ACCGGOCCTA GCGATCTCG ACTGCGAAGC CTTCGCGGCA GAACGAGCTT TACCTCCTTT | 300 |
| 15 | ACCAGACATT ATTTGTGTG TGIGTGTGTG TGIGTGTGTTA GTGTGAAGTG CGTGTGCTAT | 360 |
| | GAGAAAACAC TACGCTGAAA CTGCTAAATA ATCCAGACAG GTCCCCCAC CGCAAAGGAT | 420 |
| | CCACGCTATA CTCTCTCTA CATATTTATA CTGTCTCTTT TGCTTTCTAA TCTTCGATCG | 480 |
| 20 | TACCGGCTTG ACGCTTCAAC AGACGCTTCA CCTAGACGCT CGACCTGTGC GGCCTGGTTT | 540 |
| | TTTCGCATGA CATGTCCGTG CTGGTTTTTT CCGCTGAAA AGGAAAGCGC GTGGCTCCCA | 600 |
| | GCAACGAGGC CGTACTAGCT CTTTCGCGTG CTGTCTATG TGCAACGGAA ATTTTCATAC | 660 |
| 25 | TGTAGAGTGT GCCATCAGCT TCACAGAGTA CAAACGGTAG GCGAGTGGAT ACGCGTCTTG | 720 |
| | TAGCCGGACG TGAATGGCAG AACTTTTTGG CAGTCGGTGA ATCTTAGATT GAAAGTATTT | 780 |
| | AAGTGAACG TATAAAACAA AAGTTCCGGC TGAAGAGGAC CTCTTTTGGC GTCTGCTACT | 840 |
| 30 | TCCAGTTAT CTGTGGATA CTAAGCATAT CGAACTCTAA TTGCAATTCT AAAGATGGCA | 900 |
| | CCAAAGGCTG AGAAGAAACC TGCTTCCAAG GCGCCAGCGG CAAAGAAGAC CACTGCTTCT | 960 |
| | ACCGACGCTT CTAAGAAGCG GACGAAGACT AGAAGGAGA CCTACTCTTC TTACATTTAC | 1020 |
| 35 | AAGGTTCCTA AGCAGACTCA CCCAGATACT GGTATCTGCG AGAAGTCTAT GTCCATTTTG | 1080 |
| | AACTGCTTTG TGAACGATAT CTTTGAGAGA ATCGCGTCTG AGGCATCCAA GCTTGGCGGC | 1140 |
| | TACAACAAGA AGTCTACGAT CTCTGCTAGA GAAATCCAGA CTGCTGTCAG ATTGATCTTG | 1200 |
| 40 | CCCGGTGAGC TAGCCAAGCA CCGCGTGTCT GAGGGTACCA GAGCTGTTAC CAAGTACTCG | 1260 |
| | TCTTCTACCC AAGCCTGAAT CGAATCATT CTTAGAATGA AAGAACTTCC TTCAAGAAGG | 1320 |
| | TTCTGTGTCG CTAGTCTTTG TGGGACCGGC CTCTTATTCG AGAGCAGCTG CGGCAGAGCG | 1380 |
| 45 | GSTATGGGTA CGTTCGGTTT CATCATTTTG TATTATTAGT ACATGTAGAA ATAGGGTTTT | 1440 |
| | CTGGTTTCAT AATTGGTAT AAATTCACAC GTAATGTATA TTAGATPAGT TTTAAACTAG | 1500 |
| | TAATCGGAGA GCTTCTTTTC AACCAGTCT ACCTTGCTTT GCGCAGTCTG CTGTTTGTCT | 1560 |
| 50 | GTCTAGTTC CGAGCTCAT TTGGGTGTGG ATTCTAACGT ATCCCAATTC GTGGCTGTAC | 1620 |
| | TGCTCAACT GCGCGATGAG GCTCATGACC TCGTCCAAG GCGCCTCAAT CGTCTGTCCA | 1680 |
| | AAGCTGTGCA TAGTGCTTTT CAAGTACTC TCCTAATTC GTTCTCAAT CTGGTGACA | 1740 |
| 55 | TAGTCTGAGA CACTTGGTGA GCTAGTACCT AGCTATGATT CAAAAGTTTA GTATATTGTT | 1800 |

| | | |
|----|--|------|
| | TTATATATGC AGCTGGAGAT GTGAACATAC CGGCACCATG CAAATGTCCA CTAATGTGTG | 1860 |
| 5 | CAGCTTCGAC APTTTGATTT CTACCTTCAG AGTATTGGAA TATGTTCTTG TATGTAACGT | 1920 |
| | CTACTAATTT TCTGGTTTAT ATCGCTGATC TTAAGGGAGA TAATTTGGTT CACCCATCAC | 1980 |
| | ACAGAAGTTT TAAGTACAAA ACTTGTCCCC AGATATAGCA AGTCATCAAT TCAGGTATAA | 2040 |
| 10 | TTGGTGTCCA TGCTAATTIG AAGGGCTGTT ATATAGTTGA AGTTGTTCTT TTGGCATTGA | 2100 |
| | GCCAAATTTG GATTCTATTC AGTAGTATIG AACATCAAGT CTCCAAAGCT GAAGTCTGAA | 2160 |
| | GCAAACATC TCAATAGCTA TAGAACTCTA GCAAACAACA GACCAGAGCT TATATCATGA | 2220 |
| 15 | CACATTATAA GCTCAGCTAT TACTCTGAGT GATAGAGTGA CCCCAATTA GTTGGTTTAT | 2280 |
| | TTTATATATA AAAATATATA ACTATAGCTA TTTCAAAATGA CTAATACTA ATACGAGAGA | 2340 |
| | AGAAAACAAA TTAAACACGA TGGTCTACAG ATAGCTTGAA AGAGACACTA AGAGAAATTT | 2400 |
| 20 | CAGGAAACAG TTCAGAAAAT AGCCATTTCAG CTCTACAGCT CTCCTTATTA TCAAGAGTAC | 2460 |
| | AGTTTCTTTC ACTAATATCG CTTAATTAAT TATATTTCTT GCCATTAAAT GCGACGGTGA | 2520 |
| | CGGGATAACA ATTTTITGGCA ATTCTTCATA TTTTGATTTA AAAAAAAAC AATTTACCAG | 2580 |
| 25 | AATTAGACGA AATAGTCGCT TACTACAAAC AGGTTGAGCC ACTGGATAAA TCTCATAGTT | 2640 |
| | TAAATATTTG AGTTACAGAA ATTGGCTTAC AGAAAGCACT AGCGATTAGG CCAATTTGCCA | 2700 |
| | TTGATTTAAA CATGAACATA CGAACCTCCA TGAATTACAA TAACCACAAA TTTAACCGGA | 2760 |
| 30 | CAATTAATTT TATGTAGCAG GCTCTGCCAT GGAATAGCT TTACGTGAAC AGGATATTTA | 2820 |
| | ACGTATATCC TGTATTGAT AAAGACTTTG ATAGGTGCTT ATACTTGCAA GTTCATATTT | 2880 |
| | TACAGTTAAA TATCTAAATT TAATATATTA CGCAGTTCAC GCAATGTAGC ACGTGACATA | 2940 |
| 35 | AAATAGAAAT TTAATAATG CTGCTTTTAT TTAAATAAG TTTATAAAGT TAGTAAAAAT | 3000 |
| | ATCAGAGTAT ATATATTTAA TTAAATAATA TCCTAAAATA TACTAATACA ATTTATCAAT | 3060 |
| | TAAGCTTTAT ACACTTTATA AATAGTTATA ATTATAGATG TGTATACGAT TTCCGAAACA | 3120 |
| 40 | TAAAAATATT TCACTGCTTT CGTGAAAAAT AATTTTTTTA TTATAAAACA ATCCCTAATA | 3180 |
| | TAGTATTTACC TCCAATTATG AGTCTATGTT AATATATGAA GTACTACCA AATTTACCAC | 3240 |
| | TCATTTTICA AAAAAAAAC ACCATTTTTC AAAAATATTT TATTAAGTGA ATTTTTTATA | 3300 |
| 45 | ATTAAATTTT TTATATCTAT ATAGAATATC TATTATAGC AAGAAAAACC AAAAAGTACC | 3360 |
| | CTATAAGTAG GTACCGCTTG TCCACATTAT AATAAAAAAA GTGAAGTACT CATCAATACT | 3420 |
| | TTTATTTAGG ATACCTGCAG TCTAATATCC CTTCAGTTAA GTTACTTAGT GCACAATATT | 3480 |
| 50 | CACAGTGAGT TAGTAACCCG GTTCAGATCA AGGCATACCG AGCTTTCTCT TCTGGCTTCA | 3540 |
| | TATGCTTAAA GAAATATCA GGGACGGTGC AGTTAGCTAA AGCTCTCTTA GCATAAGTAT | 3600 |
| | TCATAAATTT CAAACCTAAG ATATAACTGG AATTGACCCA GCCAAATCCT TCAGTAGCAA | 3660 |
| 55 | CACCTTTAAA GTCTGCACTT TGGTTACCAT ATTGGGCATC AACTCTATGA GGATCTGTGC | 3720 |

CTCTGGTAAC GTGTATTTC TCTACTACGA TACCATTTGA GTGACAAAT GCGTTGGTCA 3780
 TTAAAAATAA CCACCTATAG GCCAACCTTC TTGCAACTCC TGTAAATCCG TAATTATCTA 3840
 5 ACCCGGTCCA AGCAAGCATT TGATGAGGGG CCCAACCATA AGGGTAATCC CATTCGCTGC 3900
 TTGGTCTATT CATTTGTTATC TCACCCCGAG ACTCCTCAGT ACAGGCAACC AGGCTTCTTA 3960
 GCATTTCAAG CCGTGGCAAT GCGTTCTCGA CCATAGCGTT GCGTTGTTCC TGGGTTGCCA 4020
 10 AGCCTGCCCA CATGGCCCAA AATGTTGTTG CAGAATCGTA AGATGTTCTC TTTCCAATAT 4080
 GGACATTGTA GTCATAGAAA AAGCCTGTTT CCGTGTCCA CAAATATTTC GIGATTCTTT 4140
 GCTTAAGAAT GTCTGCAAGT GCGTCCCAAT GAGAAGAAGT GGTGGTTTCA CCAGCATAAT 4200
 15 CAGTAATACT ATCATCGAAG TACTTGGAAA CCACATATGC AATATCTTTT TCGTACTTGT 4260
 ATAGTAACGA ATTCAAATCA ATCGTGGCTA AGTAAGCACA GACGTCTCT AGACGGTAAG 4320
 AGGTGTCATG TCCACTCTCA CGTACAGCAC GATCATGCCA AAAGAAGTCA TCTAGTTCCG 4380
 20 GCTGTGTAC TTGCGCGGCA TGTACATGC ACCTGAAGTC CGGAATGGTT ACAATTGTCT 4440
 TTTCGGCAA TTTCGGCAA ATTGGGTCAA AGTGGTCAGG CTCGGTTTCT GGTGGGAAAC 4500
 CGATACCATC TGGATGATAA CATGAAAGAC CCGTGGTTTT GTCTGACCGG GGTCTGCGCA 4560
 25 TCCATACACT CTGTATTTC TTAATGGCTG CGATGAATGC TCTTTTCAAG AAATCCACAG 4620
 CGGTAGGATT TTGGTCACCA CCGAAGCTTT CGAAGACCTT CAAAGCCATG TGGTTAGGA 4680
 ACCGGGGTTG TGACCGACAG AGGTAGTAGC TCTATTGGC GTTCAATATT TTACCGTAAT 4740
 30 GCTCTATCTC AAAGATGAAA TGCTCAACCA TCCACGTGC TATGTCCACT TTGTTACAGT 4800
 CTAGAAGACC CAAAGCCATT AGGTATGAGT CCCAGCCGTA AAGTTCATTA AAACGACCGC 4860
 CCGGAACAAC GTAGGGAAAA CCAACCAATG TACTCTCACC GGTAAATGGG TCCCTGTGAC 4920
 35 TCTCCATCGC CAAAGCAAGC AACCCCGGGC TTTCGTTCAA TGATTGCAGG TGCTCCGGCG 4980
 TGATC 4985

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 23 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
 (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GTTTAGTCTG ACCATCTCAT CTG

23

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
TGGCAGACCG ATACCAGGAT C

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
GCTAGGATA ACAGGGTAAT

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:
AGGCATGCAA GCTTAGATCT

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 61 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: other nucleic acid
(A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

5 GTTTTAGAA TATACGGTCA ACGAACTATA ATTAACTAAA CATGGGTAAG GAAAAGACTC 60
A 61

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 60 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- 15 (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

20 GGTATATAAA AATATTATAT GGAAGCAATA ATTATTACTC TTAGAAAAAC TCATCGAGCA 60

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 27 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- 30 (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

35 GCGAGATCTG GGTATTATAC CAATAAT 27

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 29 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: other nucleic acid

- 45 (A) DESCRIPTION: /desc = "primer"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

50 GCGAGATCTG ATGAGGCCGT CTTTGTGTG 29

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 508 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1001RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| GTGATTCGTC | CGAGATTGAA | AAGTCCTTAA | CAATCAAAAA | CAACGGGAAG | GCGTACGAG | 60 |
| AATGGCTGGA | CCTGGGTAAT | GGGTGCCTAT | GTTGCAGTCT | GAAGACGTA | GGGTGAAGG | 120 |
| CCATOGAGGC | GATGGTTTCG | CGGTGCCAG | GTAAATCGA | CTACATCATA | CTTGAGACAA | 180 |
| GCGGATAGC | GGACCCAGTG | CCGATGTGTA | AGATGTTCTG | GCAGGATGAG | GGTCTCAATA | 240 |
| GCTGCATCTA | CATTGATGGG | ATTGTGACGG | TGCTGGACGC | AGAGCATGTG | ATGACATTTC | 300 |
| TGACGAGGT | GGCCCTCCCG | CGCCAATTGC | GCGGCGACCA | GGTCTGATG | GAAAACGAGA | 360 |
| TGACCCNNGG | GNATCTTCAG | GTTGCCATGG | GGGCGGGGG | GNATGATTA | AATCTACCC | 420 |
| TGNAGGCTGN | NTAAAAATCT | TGGNCGGAA | AANGTGANT | ATAAGCGGC | TTTTTGGCN | 480 |
| AACTCGGAGN | TTTNGTANN | AAAGTINT | | | | 508 |

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 490 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1001UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| TGATCCGACC | AAGAGCAGGG | CTTGTGTGGG | GTGAATCTCG | AACTCTGCC | CCTGTGTGAG | 60 |
| CTCACCCTGG | CCGAAGTCTT | TCCAAAGAAG | AGCTGTGAGA | AAGTGTCTT | CGAACCACTC | 120 |
| GAGCTCAGCC | TGTCCGGCA | GCGGCGGCA | GGTCAAGGTG | ACCGTGGACA | GCCGCGGATC | 180 |
| ATGGTAAGCC | ACGTGGGCAT | CGGAATGTC | AGAGCCACCA | AAAGCATGGA | GATTCAAGTA | 240 |
| CCTGTGTTAT | CTCCAGATCG | CCGAATTGG | TCCGATAGA | TGGCGCGAC | TGCATTAAATG | 300 |
| CTAGGCACTT | TTTCTCCAA | CCACAGCGAT | TGTCATCAA | NGCCTCCAG | CCNGTGGAT | 360 |
| TTATCAAAC | AACCNNGTCC | GCCATGGONA | GTTGNAGATG | GCANGGCACT | TINTTTCCAC | 420 |
| AGACTGGNGG | CCGGCAATGG | GCGGGGCACC | CGGACATTA | NAATINIGTC | AGACCNAAAC | 480 |
| CNCAATTGNN | | | | | | 490 |

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 571 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1002I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GATCTCCGCA AATTCTCCCA AAATGGTAAG TCGTTATOCA CCTTAAATGC TTGCTGGGGT 60
 AGCTTGTTCC CCAATAAATA AGGTGACCCA TCATTGAGAT CCAATACCTG GGGGAGCAGT 120
 TCGCTCCAAT CGCGTACTTT CTTTAAAAAC GGAAATAGTT CATGATGGAG AGAGTACAAG 180
 TTTATGTCTT CACCAAAAAC CTCACGAGA CCTATATCTC CTTGCATGAA ACAAGTGTG 240
 AACACTGGTA GTCGTTCCAG CATGGCAGCT GTCACCGAGG CATCCTTCAT GCGACCACGC 300
 GACCTTTTGA TAATTTGGTT CAGCCATGTT TGCTCTTTT TCTTTGGCAA AGTACCACTG 360
 GCATTCTTTT CCAGGGGGCA TCTCCGAAC TGGGTGGTC AACAGAAATGT ACTGINTGGG 420
 GNGGGGTTTG GTGTGGAGG ACNITTINGT AAGATGGGC ACAGTINTGC CGTTTTTGAG 480
 GNCAGGCAGA TMTGAAACAA ATTNNOGNN ANPTGNTTT CCCTACGCAC GGGGCCCGAN 540
 TTCAGGCAAC CTNGACATTN TCGAAGTACC N 571

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 521 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1002I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GATCTTCGAG TGGGCGAGG ATAGTAGCGA CCGTGCAGA CATTCACTTT GATCAATTGA 60
 AGGCGCTGCT CCATGTCTT GATGAAGTGG GGAATAAATT GCCTATAGAG TTGGTGTACA 120
 AGGGTAACGA CTCTCTCGA TTGCCTATCA AAAGACTGAA AAGGTACGTT CGGCAGCACA 180
 CAAAACAGCG AGTTGGGCTG GTGGACTGTT CGCGTACT ACGCAGTACA CATATACCTA 240
 AGATAAAGAG GTTCATGAAT AAGTGGTAG CCACTATATT CAATTCATTT GGAGGAAATA 300

ATACTACTAG ACGTGGATTG TTGGTGGCAC TGGGTTCOA TOGATAGCTA CTTCAAACTT 360
 CCGGGCTACA CTAAAAACGG GCGCTCTTGT CCHTCAAGGA TAGAAGCGTT CCGGAGTACC 420
 5 TCCCTGTTTC ATGCACAAAA GCGAACTACT CTTCGCCACCA CCGCGCGAGG AGACAAACTT 480
 TGGGGCAATC CTTTGAGATT TCGACACCAN TGNAAAAGNT N 521

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 518 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1002RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GATCTACTAA GGAATTATGG GAATGGIGTC TTTTCTTCTT AGAATGAAT TTGTTTGCAG 60
 25 TCGAAGACGA GGTGGAAGAC GAGCGGACT GTTACTCTT GGGGAAGTTA GTCAAACAAT 120
 CGCTAGATTG TATCGGCATG GTATCACCTG AGTTTCTATC TATAGGAATG CTACTATYAC 180
 GGAAGTTGGG ATGCTGATGG GCATGGTGTG CATGAAAAAT AGGATGTTGG CTCGGCTTAG 240
 30 ATGACTGACC GAATACCTCT TCTATGATTA ATTCTWCAA GCGGGTATTG ATTAATGTG 300
 ATCTGTGGC GTATGATGAA ATGACTGCGC CGTCATGGC GGTACCGCCT TGGAGTGTTT 360
 GGANITGACA AGAANNCGCT CTTAGGTGCC NGGATTCCCN GGGITGGAAA GATGATNGCG 420
 35 AATNCCAATT TNGGTCCAAT AGGGAATCTG GNAITATTG TTATTCCAAT NAGGATNCCC 480
 GGGAGGGGGT TNCNCTACGA AGAAGGATTA GGTITNNC 518

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 441 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1002UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GATCCACGGG AGTCCACGG CCAAAGGCGG CTGGGGGTCA CGATGCAGGT TATGCTGTGG 60
 CGTGACAGA GTGGGCCCCG CTGGATGAAG CCATAAGAC TATTGAGCCA CTATATAATA 120
 55 CCAGCTGGTT ACATGATACT ATATGGTCAT AGCATCAATT GTAGTAGCCA GGGCAGTGAG 180

GCTATAGCAG CTGGAAAGGC GACTCTGAAA AGGGATTATAT GCCAAGAGCT TCAGAAGTGG 240
 ACTCAGGCCA CGCATCCAAC GGATTCTTCC TCAATTCCTC TATATTGAGC CAGAGCTCCA 300
 5 TCTTGACCGA GGTCCTCAT TCATATTCAT ACGAGTTACT TGAACATCCA ACAGGTGCCA 360
 TATTTAGKIT GGGGGGGTAA GTACAATANC GNTGNGGCC GTGGAACCCG GTCCGTTCC 420
 CNGGGTTTGG GAATTTTNG G 441

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 513 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1003RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

25 GATGCTCAT GACCAAAACA ACGAAATCCA CTACATTTGG CTGGCCACTG CTCACCCAGC 60
 GAAGTTTGG GACGCTGTGA ACGAAGCTCT CTCTCTTAC GATGACTACA ACTTCGATGA 120
 CGTTCTTCCA GACCGTCTAA GACGTCTAGG TGACCTTGAG AAGAGAATTA AGTACGTGGA 180
 30 CAACACCGAC GTTGATGTTA TCAAATCTAT CATTGAGGAG GAACTGATTA ACATGGGCAT 240
 TTACAATCCA TAGATGATCT GAACTCTAGA TGATTTATAG ACTATCTAGT TAGCCTTCTA 300
 GTCTATATA CCTAATTOCA ATAGGCAGGG GGGCCTATGT CAAGTTTAAA TCCATTTTGC 360
 35 CTCTACTGC CGCAACGTGG TTTTGTGCAA AGCCAATTTT GCGTGGGGG CCAACTTCAC 420
 CTCANTACC AGNTCTGNGA GTCATCANCA TTCCCGCTN TAGCCCCAG TGANTAGAAG 480
 TGGTCTAGGT CGTTTCAAGA GGAACATNAA TNT 513

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 504 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1003UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

55 GATCTTTAGA CAATTATGAC ATCCAAGTTT GGTCGGTTCA GACTGGTCAG TTGCTTGACA 60

CACTCTCTGG TCACGAAGGC CCAGTCTCTT GCTGTCTTT CAGCCGGAA AATAGCATAC 120
 TAGCCTCTGC CTCTTGGGAC AAAACTATAA GAGTGTGGCC GATATTGGG CGGCCCCAGC 180
 5 AAGTCGAGCC TATAGAAGCA TACTCTGATG TGCTGGATAT TTCCATGAGA CCTGATGGTA 240
 AGCAGGTGGC TGTCTCCAGC CTGAATGGTC AGCTGTCATT CTTCGACGTT TGAAACCTCA 300
 CGGCAGGTG GCAACAATTG CTTCGAAGAG GGACATCATA TCAGGACGCC ATTTAGAGGA 360
 10 CCGGTTTACT CAAAGAACTT CGGCAACGCC CCAATATTC ACAACAATCC ACTACAGTTC 420
 GCGGCTTTC AATGNTGGAG NTGGANAAA ATCINTTGGT NTAGAATCCN ATAAGGGTAT 480
 AANCGTCATG TTCCANAAT NATC 504

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 530 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1004RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

GATCTTAAAG AGGCTCAGTA TGCAGAGGCA GTTTCAGAA GAAGACAGGC TGGGCTTCGA 60
 AATCCCTCAG CTCCCGCCGT GGAAGAGTCC GCAGATGAAG CAACACACAC AACAGGGCCA 120
 GCAAACGCC CTGCGCGGCC CGCGTGCAT CCTCGGTGCC CCTTATGAAC CGAGCAGGGC 180
 35 GTCGTCCACT GGTGCAGGCC AAAAGCGCGA CTACGACTAC TCCGTGTTC AAGAGAGCAG 240
 GCTCTCACT GAGAGCAAGA TAGACCAGTA CTTGAAGAGC GAGGCCGCA CACACAAAG 300
 CGTATTCCAC CGCGACGCC CCCCAGAGG ACAGCTAACC GCTCCGACTT TGCAGCCCGC 360
 40 TCTGCTTGG ACAAGCTTCG GACGANGAGG GAGAGCCCN CCCCCCTNC AGAGNGCCN 420
 TTNGAGACC CCNIGGNTG TTCATCATCC CCCCANTCT CCAGGAGAGT TTNGAAAGG 480
 GCGCCCCNA NACNCCNTAG GATTCGTGGA GGATGGAGTN GGGCCCTTTT 530

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 494 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1004UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

GATCACCGAG OCTAATGAGT GGTGCTAGGG TAGCGTTAT TACCGTACT AATAGGTATG 60
 5 TTAATATGCC ATCAGTGTCT GAGCTCAOGA CTGACATATA TTAGCAATCT TGGCCTGAAT 120
 ATCGCATACA GGTTGATTGA GCAGTTTACT GATGACAGCA AGTTGGTTAT CGTGTAACA 180
 TCGGTACGC TGCCAAGAGT AAGGGAGGTG GTAGACCTAA TCAAAACATA CCGCGAGAAA 240
 10 TGTGGYAAGT CTGGAGCAGT AGATTTGAC TACCTGCTGG TGGATTTAC CGACATGGTT 300
 AGTGTGCTGG GCGCGGCATA CGAATTAGAA AAACGATATG ACGCTATACA TTAATTCTAC 360
 GCTAACGCTG GCAGGGTGTG TATTCCCCGA ATTGATTGGT TGGGTGCACC NGGTGTTTAC 420
 15 GGGATCCNCG GGTGTGTGAT ATCCNCGTA GNCNCGGTGG ANNAATCAGG ATGGTNGGTT 480
 AGTTTCAAGC ATTC 494

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 529 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1005RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

GATCTCCCCC AGGAACCGGG ACGGGTACGC AGTGTGTGTT CTTCOCAGCG TGGTGTGCAC 60
 35 GAATTCCATC AGCATGTGGA ACTTCAGCGC GAACATCTCC TCAGCAGGA TCCGGTCTTT 120
 CCTCTCTCTC TGGGGCCACC GAGAGCTCCG CCAGCTGCTG GCACCCCGTC AGGAAGCACT 180
 CCGCGCGGTT CCGCTCGGC CCCACCTCCC TGAAGCAGCC CACCGAGGC CGCCACACCA 240
 40 TATCATCCCC GAGCCCTTGG TTGAGGTGTA AGTTGTCTGC CCTAATGCAC CGCACAAGCA 300
 CTTTCGGGAT ATCCCAACCC AAATCTCCCA CGAGTGCAGG GTGCTCCCGG AGCTGCTCCC 360
 ACAGCGCTC CAGGAAGCTC GCCAGCGGC CGCGTTACT GCTGCAAGC GCTGCTCCG 420
 45 CGCACAATTC GATCCCCGCT GCGAGGAGA TCTGTCCCC GCTGCTCCG CGAATAGCAC 480
 GCGCAGACTC TCACCTTCGG TATTGGGTGG CGTTTCATAG AATCACTCT 529

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 523 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1005UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| GATCTTGCA | TTAACGGTTC | TTCCATCAAG | GGACAAATGG | GCGTACCGAA | GCTCTTAGCC | 60 |
| CAGCCAAGTA | TCCCACAGCT | GCACAATGCT | AAGGGTGAGG | TAATTGATGT | TCAGTCCCAG | 120 |
| CCCCCCGGGG | GCTGGGGGCA | GGTGCTACTA | NAGCATGGCC | CAGAAGTATT | TGCGAAGAAG | 180 |
| GTGCGTGAAT | TGATGGAAAC | ATTGCTTACA | GACACTACAT | GGAGAGATGC | CCATCAATCA | 240 |
| TTGTGGGCAA | CTAGGGTGCG | TACTTATGAC | CTAGCTGCTA | TTGCACTAC | CACTGCACAT | 300 |
| GCATTAGCAG | GAGCCTTTGC | ATTAGAGTGT | TGGGGTGGCG | CTACGTTTGA | CGTTGCCATG | 360 |
| CGGTTTTTGC | ACGAAGACCC | ATGGGAGCGC | TTGAGGACAC | TGCGAAATT | GGTCCCAAC | 420 |
| ATCCCATTC | AGATGTTGCT | TGTTGGTGCC | AACGGTGTG | CTTACTCTTC | TCTGCTGAT | 480 |
| AATGCGAATG | ACATTGCTCA | AACAAGCAAA | GGAGAATGGT | GTC | | 523 |

(2) INFORMATION FOR SEQ ID NO:28:

25

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 567 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1006RP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| NNNNNNNNNN | NNNNVTGGG | GCGTGGTAGA | NTAGTGGGTC | TGTTAGACAA | TGGATGCCCTG | 60 |
| TAAGCATGTG | TAACGGGTAT | CGTGGAGGGG | TCCCTTCCCG | CCTCCGAAGC | CTTCTTGGGT | 120 |
| TTCTCAATTT | CCCATAGCAA | TGGCGACTCG | CACCAGTAAA | TGCTCTCTTG | GGTAGGCTCC | 180 |
| GCTCATTAGT | CGAACGGTTC | TCCGTAGCCC | ATCTGTGTCC | AGTTGCGGGC | CCGCGAAAAC | 240 |
| AAACAAACAC | TGGCGGCGCG | GATAACGTCA | GTAGCTATGT | TTACGCAGAT | TCCGCGGAAA | 300 |
| CCGTCCAACA | GATGTTCTGT | AACCGGTGCA | GATACGTCTG | GGCAGCGGGT | TTTAACTGCA | 360 |
| GCCAGTGCG | ATTTAAAGTG | CGATGGAAGC | CTGGCGCGCG | TTCTGGCTGC | CCGCGCGTGG | 420 |
| CTCCAGCGGA | GCGAGCGGCG | GCGTGGGAT | GCGCGCGGTA | AGTCTGTGAT | CGCCGGGAGC | 480 |
| TGAGTAGCGC | TAGCGAAGGT | CACACGAGC | CCGATAGTA | GATGAGCAA | GGGGCTCTTT | 540 |
| TGGACGGTTT | GGTTACGAAA | TNCCCGG | | | | 567 |

55

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 471 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1006UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

GATCTCTGTT CTTTTTTTAC CTCIGAAGGT GCGAATGIG TCGCGTGAA ACCACTCTTT 60
 CGCGATGGSA TGTTTCTGA TCTCCCTGCG GAGCTGTTTC ATGTACTACT TCCITGTAAG 120
 GCAATCCCA CCGAGGACAG ACCGAGCTGG TCCCAACGGT TTCTCCGGCG TGCCTTTGCT 180
 GAGATGCGTT CGCATGTTTT GACCCAGCT CTGGAATATG CCGCGGGTGC GATGCTCGCT 240
 GTGGTACGAT GCAACGTCAG CGATCCCGCA GGGCGGGGGT GCAGGGGTGT ACTTCGATCG 300
 TAGGCGCTG TAAATGCTCC TCTGGGACGC CGCTCCCGCC GATCTTACTG TCCGCCATGA 360
 ACCATGGGAC AGAGTAGCGG GGATGGTTCC CTTTGCAGAT AGGAAATCTG GAAGAATTIG 420
 GTCCCGCTCC GCTGATTIG TTTATACAAA AAATTGGCCA TACATTCTTT G 471

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 518 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1007RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

GATCTTCTCG CGAAGTACT GCACCATGTC ATTCTCTCC GGTTCACCAT GAACAAGGAC 60
 ATCTAGGCGG ACCTCTCTCT GGAAGCGGAT GACTTCTCA ATCTGAGAAT TGATGAAGTT 120
 GGTGTACTCC TCCGTGGAAA TGCCCCCTTT TGCATGCTTG TTCTGTGTGA TCCGAATGTC 180
 CTTAGTCTGT GGGGAAGAAC CGATGGTGGT GGTGGGAAT AGCGGGAGCT TGAAAATTGG 240
 CTGCTGCTCC TTGAGACGCT CCGGAATGG TCGGGCTCTC GTGGATAGCT TCTCGTTCAA 300
 ACCAGCAACA CGTTCTCTGA CAGAAGGATC GTTGGGTGAT CCGAGAGGCG GGACGCGCAG 360
 CAATCGAGTC TGCAATTGGC TCCAACACAG AGGAAAAGTC TTGCCCAGAG CGTCTTAGC 420
 GAGGAAACAA ACTCATGCGG TTCTTGGTTG AAAAGAGAAC CAGCCTGGCT TTTGTGTCAA 480
 GGAGATCGTT TCCAAGTAAC TGGNMITGAA NAAGGAGC 518

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 492 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1007UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

GATCTGTGTC AGCTGGCCAT GACAGATGAG AATCGACAG CACGTTTCAC GGCATTTTAT 60
 GCGCTGGGCG TAATTAGTAA AACCGAGGAA GCGTGTGAAC TATTGGACGA GTTGGGCTGG 120
 GACTGTGCA TCGATGTTG TCGCCAGCCA GTTGGTATTT GGGTACCAA TAACATCACC 180
 ACCTTTCTCA GTTATCCTCA AGAGAGCGTC GAGAAAACAA CCGTTTGGGA AGGTATOGAC 240
 CAATTTGGAC CACCGAATTT CCGGAGGAGG GACTTCCCCC CACTGGAGGG TATCACAAT 300
 ACAAGTTGAT ACAATACTCT GAAAAGGTAG GAAAGGGATG TCCTGACAGA CAACCAAGAG 360
 CTTAAATCCA TCCTCCACA CAGGGGTAGA CAATGANTG NAAGCGNGA TTGATCTTCC 420
 CATGAGNTC CAGGATGACC AGCTCCCCAA GATTTCGGTT CGTGGGAANC GGAATCATTT 480
 NTACACAGNG GA 492

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 595 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1008I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

TCGAGTCATT TCTGTAGTC CAGTGCCATG ACAAAGTGT CTGCTTCGCC GTTGGCATAC 60
 GTTATTTGCG TTCCATATC GGCATCATCA GCGTCTCAA GCGCGACCTG AGACAACCTC 120
 TGGCCAACT TTGTCTGGC GCGAAGCATC TCCAGGCGAC CCTGCAATG ATAACAGGAT 180
 CCGGAGCGAG TCGGAACCTG CCTTGAGGTT CCGCGAAGA GCGTTGATTT CCTGTATACC 240
 CCGCGCTGC AAGGAATCTA GGTGAGGAGC ACGCAGTGA AGCAACCACT TAAACCACCA 300
 ACGGATCGCT GAGCTTTCTG TCCAAACGTC AGAGGCCACC CGCTGGCTCA CGATGACAAA 360

ACAGTTCATT GANCCGNAT GGAAGNGAT NCATGTCCGN NANATTCTTT NNTTCTTTCC 420
 TCGGACCANG NGTNANACT NACAGTCCCT GAOGANTTCC TCACCTANGT CCCCCAGGG 480
 5 GATNNTTICA AGGCGGNCOC GTCTNCCCC CTNCCNTCG NNNACCTTCT TTGTNNNGG 540
 TTTCTCTTIN CCGNCCCCC TNNNNCCAC TTNGGTTTTT NNACNCCMC NNNAC 595

(2) INFORMATION FOR SEQ ID NO:33:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 680 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1008I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

TCGAGACCGC ATCAATATC TGTCATTATG TAAATGTCCA TATTATAGAC TTCTATTTC 60
 25 AGTACCAGGC AATTGTGTCC GATAAATGAG GTGCAATGAG CACCGGTGAT CACCGGACGC 120
 GATAAATTTT TTTTGGGGG TCAACCATTA AATCTACGTG CATCTAACGC AAGGAGCAAT 180
 TTAGCTAACA ACTCTCTTA TCTTAAGAAT CGGTATACC TCTCTTGGC ACATCTTGGC 240
 30 CTCTTTAGT CTCGAGTCTT AACTACGTTT AACAAATGCA GCTTCGGATA AGATGTACAT 300
 GTGTATAAC AACATACACA AACTGTGTCA GCAGTAGCT GGCCAAATTA TGGAGCGTGG 360
 TGACAGACCG GACGTGATTA TCGCCATTAC CGGCGGCGC ATGATTCTTG CAAGAATCAT 420
 35 CCGGTGTTT CTCAAGGTCA AGGCGCAGAA AAACATCCCC ATCCAGGCGA TTGGGTCTTT 480
 CTTTGGTACG AGGACTTGGG TTTGGAAGAC GGGACCGAAA GCATCGGCAA GGAAGTTATC 540
 CGGATCAAGT GGCTAGACTT TGGGGGCTT GGGCAAACAC TTGGGACTCA ACTGATTGGA 500
 40 AGAAGGTGTT GGATTGGGC CGAGTTGGNC GANACCCGA CAGTCCCTA CGGTGTINAC 560
 CGANFTGGGG AGGGGNCAN 680

(2) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 509 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1008RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

GATCTGTCTT GGACGATATC AAGTCTATG CCATCTTCCA AACCGTCTTT TCACATTGC 60
 AACAAAATGA CTCTACAAA TACCAGTTAG TOCTAGAAAA TATGTCACAG GACGAACAGA 120
 5 TGCACTAGC ACATATTACA TCGTTATGAG CACCATAAAT CTCATAGTCT TOCTACTTTA 180
 TCTTTAATAT TAATAGTATG TGTATGCCAA TCGGCGCGTT ATGCCCCGGT AACAGTAGTT 240
 TCTTTTCTN GAACATCTGA AAAATTTCAC CCGATGAOCT CTCTTGTTC AACGGCGCAT 300
 10 CGAGCTACAA GTGCAGGTGT ACCATTACAA TCCCTATCGG NATTCGGCTG TTGNTAGAGC 360
 TGTAAAATG ATTGCTTCAG AAGATACGAG GTCCCTGGGA GTTTTGGGCC CGATGAACGN 420
 GGTCGCATTC CAAGCCAATG CGTGGAAAGG ACTCATTTGA TTTTCANNGA CCNGNAGAAT 480
 15 TAANGNAAA GTCANNGTA ACCNATTGT 509

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 500 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1008UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

GATCAAGCGG GAATTTGGG GCAAATGCAC GTTAATGCTC ATATTGTTAA CAAGCTCGGG 60
 GCAGAAGTCC GCGTTTGGG GCTAGAAATT TCCACATTGA AAGCGTTCAA TAACACATTA 120
 35 GAGGAAGAGA AAGCTCGTC AGAAGATGAT ATTTTGAAGC TGCTAGAGGA AAATCACACT 180
 GTGCATCAIT TGAAGACTAC CAACGAAGCG TTGACTACCA AGGTAGCCGA CTATAGCAAT 240
 AGACAAGATA CGATTCTCCA GCTGTTGGG GAAAAGACGG AACGTGTAGA GGAACITGGA 300
 40 AAATGACGTC GAGGACCTCA AGCAGATGCT GCGATGCAA GCACAGCAAC TTGCCCCACA 360
 TGCAAGAGAG GTTAAGAATT TAGATTCCA TATCTTATTA ACATTATINA TNCAANCGGC 420
 TTGGGTINGT TAATCAACTT CACCAGATGC NTAGATTGG GTAGTTAGNC ANTTTTTGA 480
 45 NGTGGNCAA ATGGNGGCC 500

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 506 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1009RP

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

| | | |
|----|---|-----|
| | GATCTTCGCT TGGGGCCGTG CGTTCACGCT CTTAGAAACC AAGCGTCCAA GCGATGCTTT | 60 |
| | GCCTACCCCT GGGGGGGCCC ATAGTATCAT CGAAGGTATT GTTCCCTGGC TCACATATTT | 120 |
| 10 | GTATAGTGCC CGCCTTTGCT GGGAGAGAAT ATGCTGTTCG CCCACGTACT CCCGCAGCTC | 180 |
| | GGGGGAGCA AGTTTCTCAC TTAAGGGCAA ATGTGCCATT TTCTGCAGCT CAGGCTGATC | 240 |
| | TGAGTTCACC GCCCCGTGTG GAGGTGCCCC CTTCCTGTGG GGAGAGTGGT CCATCTCTAT | 300 |
| 15 | CACCTCACTA TCTCCATAT TAAGTCCGA GATCACAGAC ACGCTATCCT CATCTCCAG | 360 |
| | CTTATGCTTG CCCCCAGCA TCTCAGATAC GGAGGTGGTC CTCGCTCCTT TCGGCTCCTC | 420 |
| | CTGCAGGAT GCATCTAGAT GGTATGGATG TGATGAATGG AAAGCCTGCA ATCTGGNAAT | 480 |
| 20 | GGTAAGTCTC CCCCCGTAT CATTN | 506 |

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 500 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1009UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

| | | |
|----|--|-----|
| | GATCATGCTA GTCTGCAGC TGAGTTTTTA AAAACGCGT ACTGAGATG TTTCGCTTTA | 60 |
| | TGGTATCGCT CCACTAGGCG ACGACTGAC TTTCGTAAAC GCGTTAGCAC TGATGCCGCT | 120 |
| 40 | ATTGGAACG CCGTCTTAA GAAGCTTGAG TTGCACCAT CAATGAAGG AGGCAAGTC | 180 |
| | GAAATTTCC AGCTAGAGG CATGTCAGTA GGTCAAATA CGTCTGTTC TGGATCGCTC | 240 |
| | TGCATCATGA TATGACATA GTAGTCGAC ATATGATGG AGACGACCTT GCGGGGTCA | 300 |
| 45 | AATTGTGTTA ATTGGTTCAA TCCCTCAGG ACTTGGGTGA TAACTCAAG TAGCGGCAIT | 360 |
| | TCTTCAGGGA AATGCCCCG TAGGAGGGCA TCGAAGNCAG AGTINGAGA ACCNCAGGCG | 420 |
| | GGGGANTCT TTGAAGGGAG AAAGAGGCCG GGAANTGGTA CCACTCCGCT CCCCNTCANA | 480 |
| 50 | AGTTGGCCCC AGCTCAATN | 500 |

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 627 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1010I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

10 TCGAGGCGCT TACGTGGGTC CACCTGAAGA TGGGCGAGAC GGGCGACGGG GAGCTGGTGC . 60
 GGGCGAACCC CACCGTGTTC CCCCTGCTGC TGGCGAAGTT TCTCAGAAAC GATCTGTGCG 120
 TGACCGGGGC TGGATGGAG GGGCAGGAAG CGAAGTGCAG CGAGGTGCAC GTGCTAGTAC 180
 15 CGAAAACACA CGCCGCGCTG GCGTCTCTCC TGCTTGACACA TAGTCCCGTG GCGCGGGGTG 240
 GCGATCTTGG CATCACCTTT GCGGACATTT TATCGTTGTC CCTGCAGGAT GCACTAGACG 300
 CCGGCGAGTT AAGGACAGCT GAACCCAAAG GAAAGTTAGA GGGTGACCTA GTAAGCGCTC 360
 20 TGGTACATAC AAAACAGCTA GAGCGCCCGG TGGAGTTCTC TACGACTGAA TTAATACGGA 420
 GGTACCGACT TGGGACAAA GAGGCGTCTA TGGATGCTTT GGCTGTGCGC TGGAGATTTT 480
 CTGACAGATT TAAAGATGAC GATGAGGTAG AATGACATTT CTGTTCAGGG TCTCAAGTGG 540
 25 GATGAGAGGT CGGCATTTTC GAAGGAGNNT GGTATTATNAN NANATCTTGG ATTTTCTGAG 600
 GGGGCTNAGN TNCAGAAAG TCANATN 627

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 628 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1010I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

TCGAGGTGGC GGGCGGGAAA CCCCTGGCA ATCTTGGCT CCAGCGCCCG GGTGACTGG 60
 45 GGTACCGTCA AGCACTTGAA GTGGCTCGC TCAAGATAAT CCACCGCTC GTTGGCCCGC 120
 AGCCCGCGAC TCCGTGCAC ATCCCGGGG ATCAGCTTGA ACTCCCCCG GCTCAGCCAG 180
 AGTGGGTGT TGGCACCGG GTAGTGTAC TCTCTGGCA GCGCTCGCT GCTCATCATC 240
 50 AGCAGAAAGT CGCCCTCTGT GTGGCAGTC TTGATGAAA OCTCGCGCC CTGAGCCCGG 300
 GAGATGCT GCAGCAGCC TGGCAGAGC GCTCTCTCT CCTGGGTTG TCGGAGATT 360
 CCACTCGCC AAGCAGCATC GCTTGGCTC CCGCGCCCG CACCGCCCGC AGGTGCAGCC 420
 55 CCTGTACCC TNCACGGT AGTGTGATT CCAGCGCCCG AACACTCTC AAGCTGAGCA 480

TGTTCTTGGG ATCTTTGTIT GGAGTCATC AAAATTGTG ATTTGAAAAA CGATACAATA 540
 NAGNGGCTCN GGGGTNGAAA GTCACACNA TCACTCTGGT TCAAGCATG TCTCAATNIG 600
 CGGGGCATAA CCAATTGCNC GGTANGCA 628

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 517 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1010RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

GATCCGCTC GCAAAGGAGA AGATAGAAGA GCAGAAAGAA TAACCCGGTGC AGGAGTTTGA 60
 CAAAAAGCTG TATCATAGCA ACCCCGCAAG GTACTGGGAT ATATTCTATA AAAATAACAA 120
 AGAAACTTC TTCAAAGACA GGAAGTGGTT GCAGATTGAG TTCCCTCTC TATACGAAGC 180
 TACCAAGAAA GATGCTGGTT CAGTACTAT CTTCGAGATT GGGTGTGGTG CCGGCAATAC 240
 CATGTTCCCG ATCTTATCTG CAAACGAAAA CGAACACTTA CGCGTTGTGG GTCCCGACTT 300
 CTCCCGAAG GCGGTGGGAA TTGGTAAAGA CGTCGCAAAA CTTTAACCCC TCGAATGCCC 360
 ACGGACGGT ATGGGACTTT AGCCAAACCT GATGGTCTTT TGGCCGATGG TGTGAGGCC 420
 CATTCGGTGG ANATCGNAGN AATGATTTTN GTTTTAGTGC CTNGGNGCCC ACAGGGGGCC 480
 AGGNTNIGGT TATTGGANAA AGTCTTNANC AGNGGT 517

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 492 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1010UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

GATCAGGACA GTAGCAGCTT GACTGAGTAT CAGCAGGAAA AGCTAGCTA ATTGGGCGGA 60
 GTACAATTAC AAGTACCTGT CTGACTACTT CTTTGGGTGG GATGCCATAT TTTTLAGGAT 120
 GGCTGCAAC GGGCCGGTGG GGGCGCATC CAAATTATG GAGTGAAGA GCTGTCAAT 180

GCGCTTTATC CCATCTGCAC CGTCTTTATC GCGGAACATG GCATGCAACT CTTCAGGCAT 240
 GATATCTTCT TCTCTGTGCT CTGATCGGC GTTGSTGCTC GTTTGGGCAG TCTTGTAGG 300
 5 CGCCATTCT GTAATGTTGA AGCTGGTCTT TGGTCATCTT CAGACCTCC CGTCAGGAAA 360
 TATCAAAGAA ATCGGCTTCA CTAATATCTA CGCTCACTC TCGAAAAATG TCGAGGCTC 420
 TTCATCCCA GCTGAAGGAC CCTGACCAGA AAAATGTCAA TGGTACTCAA CGCAACTTTA 480
 10 AINTINCAAG AN 492

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 620 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1011I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

GATCTGCGCG GCGGATGTT AGCAGCGAG CGTATCTAAA CAATTTCGAA GTTGTCGAAG 60
 GCGTGACCGT TOCAATAGAC CGCTCTAGCT ATTCCAGTA TGACAAATGG TTAAATCGC 120
 30 TAGATGCAGC TGCAGACGT ACAACTGCT GGTAGAGCT GTGGATGCT TCGCCCTCC 180
 AAAACTTCTA CGCTCAGGAG GCGAGGATGA TCTGCAAAA AATCATCCAG ACCAATGGCC 240
 CCACATCTTT AATTCAGTGA GGTAAATGTC CATACTTCA GACTCAGCA GTCTTTTGGT 300
 35 TTTCTGGATG TCAGATACCA GACTATGTAC TGAATAGCA CAACATTAGA TATCTAAAA 360
 GTCTGTGGT TTACAATCTT AAGGTGGCT GAAAGAAGAG AAACAATCTT CGAAAACAAT 420
 ACTAAGCGA ATATATCAAC GTAATATGAC CGCTCAGCT TGGATAACA TTCCGATATC 480
 40 AGAGGGAGAA GACTCCGCG GGTCTTTCG NTCGCGCG AAATTGCNCA GTNTINATCC 540
 CGNAGCCNC CCACNGGTT TCAACCCCT TTTNGGNGT TCGNCAAT NAAGGGNGC 600
 CTCCTGCANT TACCTANNA 620
 45

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 420 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1011I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

5 GATCTCTTGC ACCAGTCCAA ATCAGCGGGG TCGTCCACCT TTCTCCATA TATGATTTTG 60
 CCGATGGTGT CCGTGACAAG CTTCAGGGC ACCAAATCGG GGTCGACATG CTCCTTGCCG 120
 TTACTGCTCT GTTCAAATAT GTGGTCCAAA AACTTGCTAC CTGGGTGAA GTACCATCG 180
 TCGAAGTGT ACTTCCTGGT GAATCCAATA GCGCGAGAC GGCACCTGGC CATGATAATA 240
 10 GAGTGAACC ACAAGAGGAT GAACTTGCTA TGAAGTTTTT CTACTGTTT GACATTCTTC 300
 AGTTCTCTG ACTGAGTCCG CCACAGCTCG CAGACTGTGT TTAGAAGCC GGGCTCACC 360
 TCGTACGCTA TCTTATAGTT CTGCTGAGCA AAGGAACCAC TAGAGGCTTG CTTTGGGATC 420
 15

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

20 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1011RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

30 GATCCAAAGC AAGCCTCTAG TGGTTCCTTT GCTCAGCAGA AGCTATAAGA TAGCGTACGA 60
 GGGTGAGCC GCGTCTCTAA ACACAGTCTG CGAGCTGTGG CCGACTCAGT CAGAGGAACT 120
 35 GAAGAATGTC AAACAGTAG AAAAATTCA TAGCAAGTTC ATCCTCGTGT GGTTCCTCTC 180
 TATTATCATG GCCAGGTGCC GTCTGCGCC TATTGGATTC ACCAAGAAGT ACGACTTCCA 240
 CGATGGTGAC TTCCACCGAG GTAGCAAGTT TTTGGACCAC ATATTGAAC AGAGCAGTAA 300
 40 CGCAAGGAG CATGTGACC CCGATTGGT GCGCTGAAA GCTTGTGAGC GACACCATCG 360
 GCAAATCAT ATATGGGAGG AAAGGTGAC GACCCCGCTG ATTTOGACTG GTGCAAGANA 420
 TCTGCGCGGC GGATGTTTCA GCGGACGCG TATCTAAACA ATTGAAGTT GTCCAAGGCC 480
 45 TGACCGTTC ATAAACCGCT CTANCTATTC CAGTATGAC AAATGGGTTA AATCNCTAAA 540
 NGCANCTGCA GAACGTACAA CTGCCCTGNT TANANCTGTC GGATGCTCGG CCTGCAAACT 600
 TCTACNNCNC GAGGCCAGNA NGATNGCAA AAAAATCTNC AGANCNANGG CCCCCTCCTT 660
 50 TAATCCCTNG ANTNVNAINT CCAACNCCN TTNCCCATC TTTTGNNTT TGTINTTAAA 720
 AACCAAATTN TC 732

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

55 (A) LENGTH: 641 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)
(vi) ORIGINAL SOURCE:
(A) ORGANISM: 1011UP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

GATCTTCACA CGCACTATTT GTCCAAGGGG CTTCAATCGT CATTGCATTA CACGAAGAAA 50
CAATACTTAC ATGAGAATGG AACAAATAA AACTAAGCGT ATGGTGCCTA ATGATTGTCC 120
15 AGATGGGGGT TGCTGTTCGT GAACAGTAA TGCTTGGCAA ACTCATAAGA TGTCCAGAT 180
ATAGCAGTTG CAGGCATGTT GCTGATAATT CTGGGTTTTA GGGCCCGAAA GAAACCGGAC 240
CAACCATAAG TTTTGTGGAT TGCAGATGCA GCCTTGCGGA ATGIGTCAGC CTCCTTGAAC 300
20 AGCTGACTTT GAACAGAATC TGCACCGCGA ATCTGCAATA CTGTCTTCAC GCAGTCTAGC 360
GGTGTGGGTT ATGGCGGCAC ATGTTGGCGC CCGGATATCC CACCGCACAG ACAATGTATC 420
CAGGGGTTTG TAGCTGTTA CTCGGATTGA TTATTTTGGT GGATGATTCA ATAAATTACA 480
25 AAAATCAAC GCTGGGACGG ATTGTTGATA GCAATAGTTG TCCGGTTATG ATTAGAAAAA 540
CGCTTGAAAT GGGCTCGTG GTTCAATCCG CACGGGGCAT CCCGCAATGG ANCANITGGG 600
TGAANTGAAC TCTTTGGTGG GNGNNANCGG TCCNNAGCGA C 641

30 (2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 653 base pairs
(B) TYPE: nucleic acid
35 (C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1012RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

45 GATCCTAACC CAACTGCACA AAATTGTCAG TCATATGTTG GGAGGCAGTT TACCCCTTCCG 50
CCGCAAAATA CATACTTCTC CTTAGGAAAC GCTCCTCGCT CAGGACTGCA ACTGCATTGA 120
CGAGCAGCAG AATAACGTAG AATAGCTTTC CCAGGOCAAA TATCATCCCT CCAGGTACAG 180
50 TCTATCAGCA GTGTACTCCG CTGTGCGAGA AGTGGCATTC ACAAGATAAG CAGAAGTAGT 240
TCTAAAAATC AGTGGTCACC AACGCGAGGC TGCAAAATCG TGTGTTCAT TCCCATCTCA 300
AAGCATCCCC TGAAACAAA GCTTCACAGT TCCAGGTGCC CCGCGTGAT AACAGATGAT 360
55 AATTTATATT TTAAGTTATA TTAACACACA TATACAAAAA GATTTGGTAG TGGATTAATG 420

ATGATTTGCT TAATCAGCGT TACGTCTTGC GGCCTTCTTA GCCAATCTCT TACCGGTACC 480
 AAAGACCTTC TTACCTCTGT TCTTTCTTTG CTTTCTCTGT TGTCTGGAAG CCTTCTCAGC 540
 CTTCTCAGCC ATGCCGTATC TGACCAATCT GTANGTTGGC TCGAACTTCT TGGCGTCNGC 600
 AACAGAGTTG TAGATCAAAC CGAAACCGGT GGACTTGGCA CCACCAAAC TGG 653

(2) INFORMATION FOR SEQ ID NO:47:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 650 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1012UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

GATCTTCCCTC GAGCGCACCA CGCGGCCCCA CACAGACTCC GAGAAGCTGC TCTTCTCGGA 60
 GGGCACCAAA ACATGCTTCC AGATGTTTAC GCAGCAGGTG GAGGTGCGCG CAGGCTCGGG 120
 CCAGGCGAAG ATCTCTGTGG GCGTCTGCGA GCGCTTCTGC AAGCTCTCTGT TCGAGGCGCA 180
 AAGCCACTGG ATGCAGGCCA TTTGCTCCGA GGTCAAGAAG TGCCTCCAGT ACAACCACAA 240
 GTATGAGAAA GACCCCGACA ACATCGCGCA GGAGGAGGAG TCGGCGCGCG GCTCTGTGCA 300
 GTACCTCGTC GCGGTGCGCA ACGACCAGAT GAAGGCGCGA GACTACGCGG TCGCCATCTC 360
 GCAGAAGTAC GGCTCCATGG TCTCCAAGGT GCACGAGCGC ACCATCAGCA ACCGCATCGA 420
 GGAAGACCCCT CGACGCTTTC GCAGAGGTGG CCAAGTGCAG CAACAGCGGC CTGTGTGCCC 480
 TGATCTTGGC CGACCTGGCG CCGCCCTACG CCGAGATCTT CAGCAAGGCC TGGTACTCGG 540
 GCAACCAGGC GCAGCAGATC GCAGACACCC TCTACGAGTA CCTGCGCGAC ATCGGCAGCC 600
 AGATGAACCC TTGCTCTACT CCACCTCTGT CGAGTCTGTC ATCGAAGAGA 650

(2) INFORMATION FOR SEQ ID NO:48:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 727 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1013I1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

TCGACGGCGA CAGCGTACTT CAATCTGTAG ACAGAAGAAA CCTTGCCCTC TTGGCCCTTC 60
 TTGGAGCCAC GCACAACCAT AATCTCTGTG TOCTTTCTGA TTGGTAGAGA CTTGATGTTG 120
 TACTGCTCTC TCAACTCCTT GGATAGAGGA GCAGACATGA TCACGGGGCG CTCGGAAGAT 180
 GCGCGGTGA AGTACGCCCTT TGTGGCCTTT CTCTGTGCGG AGGAAACGTC TGCAGACATG 240
 TTAGTACTGT GCGGGGCCAC CAACTTGTTC CAGGCACTGG ATTATGCTAG GTCCGCTGCG 300
 GCGCTGGGCG GTATGCCGAG GTTACCACGG ATGCCAGCGC CAGAGACGCT CATTCOCAAT 360
 GTTTCGGGAG CCACCATCGT TCTGTACAT ACCTAGAGAT TGCTTAGCCA TTGCTGATTC 420
 GCGTGTGCT GGTGAAGAAC CTCTGTTTCA NNTGTGNNAN AATCTCAATN GTGNNACTT 480
 TTTCANNITG TCCGNCCTAC GCTGNACCCN CTNNNNITG TNAANNCCN NNNNNNNNN 540
 CAANCGTTTC GCTANNITNN TCTTANANAC NNANANNNT CNNNNNNAAN NCCNNNNNN 600
 CACNNITTC NACCNNNNN CAANNNNNN NNNNNNNNN NANCCNNNN NATNNTCAT 660
 NCCCCCTTC NNNACTNNNN ANCCNNNNNC TNNNNNANN NNNNNNNNC ATNNNACNA 720
 NAACNCC 727

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 635 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG101312

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

TCGACAAGGT GACCAAGGAG AAGTCCAAGG GTGCCCTCGT GCCATTGGAC GTCCACCAT 60
 CCAAGGTGTG CATCACCAGG TTGCACTTGG ACAAGGACAG AAGGCCCTTG ATCGAGAGAA 120
 AGGGTGGCAA GTTGGAGTAA ATGCAITCCA CAGGTACGCC AGCATATTAT AAGTAATTAT 180
 GTTCTACCAA CTCTCTCGA TATATAGTAA GTTCAGAAAG TGTGTMTCA CTAGTGTTTA 240
 TCAGTGGGCA TAATGACTGC TCTGTGCTC CGCTGTGCG CAGCCATTCT TGGGGGACAG 300
 CCATGACTTC CGGGACCGAG TGAACAGGCG CGAAATTCGG TTCTCGGGC CGACCAACNT 360
 TGGACTCTTA TTGATTCTCT TCGGCCCTAA GAAAGTAGAC AGCGCTACA TATATGACAC 420
 ATCCCTGTCT GGGTGTMTAA GGAGCACGCG TCTGAAGAGC AGGGAAAACA CGGAGTCACT 480
 AGGCTCTGCT ACGGCTCGAG GTTTTGAAG TGAGTTTIGN ATTATTGCTC CNMTGAGAN 540
 TGAAGGGGT GGAGGCGGTC ACCCGATCAA CAGACNANCA GGCAATGGIN TGAGTGNAA 600
 CACAGCNCGG CGAGACGTC GCAANNNTCN ANGNA 635

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 669 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1013RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

ANAATGGCTG GTAGTTATTG TTAACCACTA GTTCTCTCCC GAAGTTGAAG TACTTCACAT 60
 AACTCAGGCC CTCGAGGGA CTCATCTCTT CGTACAGAGG CCTATTCAAC TCAATGGCT 120
 GCTGTAGTC CTCGAATGCA TCTGCTAT TCAACCTT GTNGTCTGCA GAGGCTGCTG 180
 CCTCTCCAC TGTGGGCCC CTCAGAATTG ACTGGCTCAC GACAGACTCA ACGAAGAATA 240
 CTTTACATT AAGAGCAGCA AACTGCTGG CGAGCATCTT GGGCTCTCG GGCATGATGT 300
 TCATGCCATC ATAGACAGNA AGGTGTCCCT GCTGGAAGA CTCTTCATG TCCGCTGCA 360
 TCTGGCTAT CAGGTGGGC GCGAGTCTGA TCCCTTCGG CGTAACTGGT CTGGTAGAGA 420
 AGTAGTCCAG CGGTAGTTC ACCATCCCT GGGGAACCG NGNCCNNGA TACTCGACA 480
 CANTGAAGGA TTGTGTGNC ACCCCNAGC ACCCCCTAT TCGGTGATT GNCACGNAA 540
 CAANNITTT GGTGTGCTT TGNAGGCCAC CCAGGACGNA CCAAAATTTT TCCCGNITG 600
 GAAANCCCC CAGNCCCCAN NNGNAAAT GGNCCCCGG AATTTTNG CCGTNGGNC 660
 CNGCGNG 669

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 632 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1013UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

GATCCTTAC CAGCCAGTA GTGCCACCA GGAAGTTGAG GTGGCTATC CGCTGACAC 60
 GAAGTATTC GACCTTTTG CAGAAGTTGA CATATGTAAA CGGATTTGC CCATTTGAA 120
 AAAGCTGGA GTCAATACCA TTGTGTTTA CTCATTGAT CCAACCAAC CACATGAGT 180
 TTGCATGGAG GAGTTGAGCA AGCTGGGAAT CTAGTTCTC ATGATTTAT CAGAACCAGA 240

CACCTCTATA ATTAGGGAAA CACCAACATG GGATGTAAAA GTATTCCAGC GGTACAAAGA 300
 CGTAGTAGAC TCCATGCAGA AATACAATAA TGTTCTGGGC TTTTCTGCTG GTAACGAGGT 360
 5 CACTAATGAC CCAACGAACA CAGACGCATC GTCTTTTGTG ACGGCGGCTA TCAGAGATGT 420
 CAAAACTAC ATCAAGCAAA TGGGATACAG AACTCTTCCG GTTGGTTACT CACCATCGAT 480
 GACCAGGAGA CGAGGGATCA CTGGCCTGAT ACTCCCTTTC GGTNGCGTAT CTNCAGANNC 540
 10 TTTTGGCATA ANTTTGTCCG ATTGGGCGCG CATCCACCTN CNGACGANCN TTCAAGAGAG 600
 NCGCTTNCNA TTCTNGAACT CCCCCTGGCG CC 632

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 602 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1014RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

GATCAAACTG CCGTCTTGGC GCAGCACGCG GCGCGCGGAG TTGGATACGC GGTCCCGGTC 60
 30 AAAGGCCACG CCGAGCGCGC CAACTCCCG GAGGGGCTGG CCGCGGTAGC CCAGTGACGT 120
 GATAAGCAGC TCCAATTGCT AATCCATTG CTGCTCCAGG TGAAGTACAA CTTGTGTTTC 180
 AGGGGTCAGG GAGTTTFTGC AGACGGTCAG CCGAGATATC GCGCGGCGCG CGTCCCTGGG 240
 35 GATGTAGAGC GCGCTCTTGA GATAGTGGGA CACCCAGGCC TTGGAGTAGC CTTCGCGCGG 300
 AGGAGGTAT TTAAGTCCGG ACTTGTCTGC GCGGGCGCGG TAGGGCAGCA GGTACTGCTG 360
 GCACATGTCA ATGCGCGGTT TGGTGGCGCG GTGAGCGCGC AGCGCGCGCC ACGCCTGGG 420
 40 CGTGAAGTGC TCGGGCGCGA TGTGGCGCGG CACGCGCGAG CGCTGAGCT CCCACATCTC 480
 GCGCAACTCC TTGNTGTGA ACTTGTCTGC GAGGAAGTCC CCGCGCGCGA TGAGACGCAC 540
 CTCTCGAGC GCGCGCGCGC GCAAGCCTG CAGCGCGTCC GGGTTTGATG TGGTCTGGC 600
 45 CC 602

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 627 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1014UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

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GATCAGTGTT CCGGGCGAGC CGAGAGCAT ACTGCTGTCA TGTCTATACC AGGAGCTGCT 60
 CTCGGGGGTC ATTGAGGAGT CCAAGCGTTT TGCAGACAGG GACAGCACCA AGCACATCAC 120
 AGCCGAGCAC CTAGATGAGC CGGTGGAGGC GTTCTGGGA GATGTAGACC GAGGCGCGGA 180
 CCGGGCATGG CCTTGATGTA AGTCTATGTA CAGGATATTA GCTTTCAAAA TGCATGGTTG 240
 GGGTACTTCA GCGTTTCAC CATGGAAGG GCGCTGGGG CGTCTTTTT GTTGAGCACG 300
 AAGAGGCGCT GGAGCTGCGC GGTGACACT GGGAGGCTA GCGGACGGC CTGCGGACA 360
 AACTCGCGC AGAGCGCGA GTGTCCGGG TAGAAGCGA GGAACATCTG CTGATCTGG 420
 TGCGGGGTG CGTTCGCCA AAGGACCTG TAGTGGATGC GCGCGGGGG CAGCACGGG 480
 GGGTGAGGA CCTCGGATC GTTGTGCTC ATAAAGTGA TCATCTCTC ACTGGAGGG 540
 ACGCGTCCA GGGCGTTGAG CAGCGCGCTG AAGTGACGC CGTTGGTGA ACCGTCTGG 600
 TTCTCTTGC GCTTGACAAA GCGCGT 627

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 698 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1015RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

GATCCAATTC CAAACGTAAT AACCATGGAG ACTGATGCTT CAAAGACGCC TGGGTCTCTT 60
 CATCCATCAA AGAAAAGTGC AATTGTATAA TTTCCTCACC CTCTTCAATC ACAGTAGAGC 120
 TAGGATCCCC CCGGCTGCAG GAATTCGATA TCAAGCTTAT CGATACGTC GACCTCGAGG 180
 GGGGCGCGG TACCCAATTC GCGTATAGT GAGTGTATT AGCGCGCTC ACTGGCGTC 240
 GTTTTACAAC GTCTGACTG GGAAAACCT GCGTTACCC AACTTAATCG CCTTGACGA 300
 CATCCCCCTT TCGCCAGCTG GCGTAATAGC GAAGAGGCC GCACCGATCG CCGTTCCAA 360
 CAGTTGCGCA GCGTGAATG CGAATGGAG CGGCGTGTAG CGGCGCATTA AGCGCGCGG 420
 GTGTGGTGT TACGCGCAGC GTGACGCTA CAGTTGCCAG CGGCGTAGG CCGCTCTCTT 480
 TCGCTTCTT CCGTCTCTT CTCGCCAGT TCGCGGCTT TCCCGTCAA GCTCTAAATC 540
 GGGGCTCCC TTTAGGTTT CGATTTAGTG CTTTACGCA CCGGACCC AAAAAGTTG 600

ATTAGGGTGA TGGTTCACGT AGTGGGCCAT CGCTGATAG ACGTTTTC GCCTTGACGT 660
 TGAGTCACGT TCTTTAATAG TGGACTCTTG TCCAACTG 698

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1015UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

GATCCTAGCT CTACTGTGAT TGAAGAGGAT GAGGAAATTA TACAATTGCA CTTTTCCTTG 60
 ATGGATGAAG AGACCGAGGC GTCTTTGAAG CATCAGTCTC CATGGTTATT ACGTTTGGAA 120
 TTGGATCCAC TAGTTCTAGA GCGCGCGOCA CCGCGGTGGA GCTCCAGCTT TTGTTCCCTT 180
 TAGTCAGGGT TAATTGCGCG CTTGGCGTAA TCATGGTCAT AGCTGTTTCC TGTGTGAAAT 240
 TGTATCCGC TCACAATTC ACACAACATA CGAGCCGGAA GCATAAAGTG TAAAGCCTGG 300
 GGTGCTAAT GAGTGAGCTA ACTACATTA ATTGCGTTGC GCTCACTGCC CGCTTTCAG 360
 TCGGAAACC TGTGTGCCA GCTGCATTAA TGAATCGGC AACGCGCGG GAGAGGCGGT 420
 TTGGTATTG GCGCTCTTC CGCTTCTTG CTCACTGACT CGCTGCGCTC GGTGTTCCG 480
 CTGCGCGAG CGGTATCAGC TCACTCAAAG GCGTAATAC GGTATCCAC AGAATCAGG 540
 GATAACGAG GAAAGAACAT GTGAGCAAAA GGCAGCAAA AGGCCAGGAA CGTAAAAAG 600
 GCGCGTTGC TGGGTTTTT CCATAGGCTC CGCCCTGA CGAGCATCAC AAAAATCGAC 660
 GCTCAAGTCA GAGGTGGGA AACCCGACAG GACTATAAAG ATCCAGCGTT TCCCT 716

(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 656 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1016RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

GATGTGAATC GATGTGTGGA GACGAGTGTA ACTAGACACA AGCTGGCGAT GCAGCCAGAT 60
 CTAACAGGAA AGGTCTTGGT TGGGAGAAA AGGTACTACG AAGAGTAGT CACTAGTGTC 120

ACCTACAAGC CTACACACCA CCAACTGCGT TAGGAAAATC TAAATACGTA CCTCTATCCT 180
 ACAAACTACG AGGTGCGCGA ATTCCAATTC AATTTTGTCC ATCGTGCGTT ATTGCGAAAT 240
 5 GTGCTCTGTG CGATTCCAC AGGTATTGGT AAGACCTTCA TTGCCAGTAC GGGGATGCTC 300
 AATTACTATT GGTGGACAGG GGGCAGAAA ATTATTTTTA CTGGTCCAC ACGACCACTT 360
 GTTGGGCAGG AAATTAAAGC ATTCTGCGG ATTACTGGT TTCCCNNTTA TGATACGGGA 420
 10 ATNCTTCTTT GACAAGAGCC NNNNGCAG GGTACAGATT TGGGNCAAA GAAAACGTTT 480
 TTTTTCG NAAACCCCC CANTGGGGG GNAANTTTC CCNCGAGAG GGGGACTTN 540
 NNTCCCNNA GANNVINGN TTTTCTNGG NNNNGNGA NGGNTCCAC CCNNGNNGG 600
 15 GGGGCCACN NCCCCCN NNNGNNTTT NNNNNNTN TTTTACAAA ANTTC 656

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 435 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1016UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

GATCCATCGA ACGTCCATTT TATACGAGA CATTTTATA CAATTTTAT TTAATAATGA 60
 GGATTGGCA TTCCCTCAA CTGCTGACT AGAAGTTAGC TGGTCTAGT AGTGTAGCTG 120
 35 GGCTAATGTC GACTGAATTG CGTTGCCG TGCTGGAGGA TTATTTTGTG TCCGAGCTA 180
 ATGCTTCTCT GCCAGATGA TTCCAGTGA AAGAATTGCA AGATGAATAC TATCGACCTT 240
 GGGAAACGAT TGTGAGTAAT CTACCCCGC TATTGTTGGC GCGACAGCTG CCGGATGTGG 300
 40 TGGACCAGCT GAAGGTGCTG GAGGTGAAGA AGGAGCTGTT CGACGATATT TGGCAGGTT 360
 CCGCGGCAT ATTGCGGTT GGCCTTCAAC GTCAATGCGT ATGTGTGAG CTACGACGAC 420
 CGGTGACA CGATT 435

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 347 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1017I1